



SEQUENCE LISTING

<110> Sylvain  
Martin, Beauchamp  
Quiniou, Christiane

<120> Cytokine receptors modulators, method of identifying same, and  
method of modulating cytokine receptors activity with same

<130> GOUD:040US

<140> 10/693,657

<141> 2003-10-24

<150> 60/420,679

<151> 2002-10-24

<150> 60/423,530

<151> 2002-11-05

<160> 65

<170> PatentIn version 3.2

<210> 1

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<212> PRT

<213> Artificial Sequence

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Peptide

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Gly Val Leu Ile Ile Ile Glu Leu Asn Thr Lys Glu Gln Ala  
1 5 10

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Peptide

<400> 2

Glu Ala Thr Val Gly Glu Arg Val Arg Leu  
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<210> 3

<211> 10

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<223> Description of Artificial Sequence: Synthetic Peptide

<400> 3

Leu Pro Leu Glu Ser Asn His Thr Leu Lys  
1 5 10

<210> 4

<211> 11

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic Peptide

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Ser Pro Val Asp Ser Tyr Gln Tyr Gly Thr Thr  
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<210> 5

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic Peptide

<400> 5

Val Ile Leu Thr Asn Pro Ile Ser Lys Glu  
1 5 10

<210> 6

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic Peptide

<400> 6

Asn Lys Val Gly Arg Gly Glu Arg Val Ile  
1 5 10

<210> 7  
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<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 7

Met Pro Pro Thr Glu Gln Glu Ser Val  
1 5

<210> 8  
<211> 9  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 8

Arg Lys Thr Lys Lys Arg His Cys Val  
1 5

<210> 9  
<211> 9  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 9

Thr Val Leu Glu Arg Val Ala Pro Thr  
1 5

<210> 10  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 10

Thr Ser Ile Gly Glu Ser Ile Glu Val

1

5

<210> 11  
<211> 10  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 11

Ser Ile Phe Val Pro Arg Pro Glu Arg Lys  
1 5 10

<210> 12  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 12

Asn Phe Leu His Asn Ser Ile Phe Val  
1 5

<210> 13  
<211> 9  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Synthetic Peptide  
<400> 13

Glu Gly Pro Cys Pro Lys Val Cys Glu  
1 5

<210> 14  
<211> 10  
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<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 14

Glu Ser Asp Val Leu His Phe Thr Ser Thr  
1 5 10

<210> 15  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 15

Arg Thr Asn Ala Ser Val Pro Ser Ile  
1 5

<210> 16  
<211> 9  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 16

Ile Arg Lys Tyr Ala Asp Gly Thr Ile  
1 5

<210> 17  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 17

Glu Asn Phe Ile His Leu Ile Ile Ala  
1 5

<210> 18  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 18

Ala Lys Thr Gly Tyr Glu Asn Phe Ile His  
1 5 10

<210> 19

<211> 10

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 19

Lys Glu Arg Thr Val Ile Ser Asn Leu Arg  
1 5 10

<210> 20

<211> 1356

<212> PRT

<213> Homo sapiens

<400> 20

Met Gln Ser Lys Val Leu Leu Ala Val Ala Leu Trp Leu Cys Val Glu  
1 5 10 15

Thr Arg Ala Ala Ser Val Gly Leu Pro Ser Val Ser Leu Asp Leu Pro  
20 25 30

Arg Leu Ser Ile Gln Lys Asp Ile Leu Thr Ile Lys Ala Asn Thr Thr  
35 40 45

Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro  
50 55 60

Asn Asn Gln Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser  
65 70 75 80

Asp Gly Leu Phe Cys Lys Thr Leu Thr Ile Pro Lys Val Ile Gly Asn  
85 90 95

Asp Thr Gly Ala Tyr Lys Cys Phe Tyr Arg Glu Thr Asp Leu Ala Ser  
100 105 110

Val Ile Tyr Val Tyr Val Gln Asp Tyr Arg Ser Pro Phe Ile Ala Ser  
115 120 125

Val Ser Asp Gln His Gly Val Val Tyr Ile Thr Glu Asn Lys Asn Lys  
130 135 140

Thr Val Val Ile Pro Cys Leu Gly Ser Ile Ser Asn Leu Asn Val Ser  
145 150 155 160

Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg  
165 170 175

Ile Ser Trp Asp Ser Lys Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile  
180 185 190

Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Ser  
195 200 205

Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg Ile Tyr  
210 215 220

Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu  
225 230 235 240

Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile  
245 250 255

Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu  
260 265 270

Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe  
275 280 285

Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu  
290 295 300

Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr  
305 310 315 320

Phe Val Arg Val His Glu Lys Pro Phe Val Ala Phe Gly Ser Gly Met  
325 330 335

Glu Ser Leu Val Glu Ala Thr Val Gly Glu Arg Val Arg Ile Pro Ala

340	345	350
Lys Tyr Leu Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr Lys Asn Gly		
355	360	365
Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly His Val Leu Thr		
370	375	380
Ile Met Glu Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu		
385	390	400
Thr Asn Pro Ile Ser Lys Glu Lys Gln Ser His Val Val Ser Leu Val		
405	410	415
Val Tyr Val Pro Pro Gln Ile Gly Glu Lys Ser Leu Ile Ser Pro Val		
420	425	430
Asp Ser Tyr Gln Tyr Gly Thr Thr Gln Thr Leu Thr Cys Thr Val Tyr		
435	440	445
Ala Ile Pro Pro Pro His His Ile His Trp Tyr Trp Gln Leu Glu Glu		
450	455	460
Glu Cys Ala Asn Glu Pro Ser Gln Ala Val Ser Val Thr Asn Pro Tyr		
465	470	475
Pro Cys Glu Glu Trp Arg Ser Val Glu Asp Phe Gln Gly Gly Asn Lys		
485	490	495
Ile Glu Val Asn Lys Asn Gln Phe Ala Leu Ile Glu Gly Lys Asn Lys		
500	505	510
Thr Val Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr		
515	520	525
Lys Cys Glu Ala Val Asn Lys Val Gly Arg Gly Glu Arg Val Ile Ser		
530	535	540
Phe His Val Thr Arg Gly Pro Glu Ile Thr Leu Gln Pro Asp Met Gln		
545	550	555
Pro Thr Glu Gln Glu Ser Val Ser Leu Trp Cys Thr Ala Asp Arg Ser		
565	570	575



Thr Phe Glu Asn Leu Thr Trp Tyr Lys Leu Gly Pro Gln Pro Leu Pro  
580 585 590

Ile His Val Gly Glu Leu Pro Thr Pro Val Cys Lys Asn Leu Asp Thr  
595 600 605

Leu Trp Lys Leu Asn Ala Thr Met Phe Ser Asn Ser Thr Asn Asp Ile  
610 615 620

Leu Ile Met Glu Leu Lys Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr  
625 630 635 640

Val Cys Leu Ala Gln Asp Arg Lys Thr Lys Lys Arg His Cys Val Val  
645 650 655

Arg Gln Leu Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn  
660 665 670

Leu Glu Asn Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys  
675 680 685

Thr Ala Ser Gly Asn Pro Pro Pro Gln Ile Met Trp Phe Lys Asp Asn  
690 695 700

Glu Thr Leu Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg  
705 710 715 720

Asn Leu Thr Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr  
725 730 735

Cys Gln Ala Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe  
740 745 750

Ile Ile Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu Ile Ile Ile Leu  
755 760 765

Val Gly Thr Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile  
770 775 780

Ile Leu Arg Thr Val Lys Arg Ala Asn Gly Gly Glu Leu Lys Thr Gly  
785 790 795 800

Tyr Leu Ser Ile Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu His  
805 810 815

Cys Glu Arg Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp  
820 825 830

Arg Leu Lys Leu Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val  
835 840 845

Ile Glu Ala Asp Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Arg Thr  
850 855 860

Val Ala Val Lys Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg  
865 870 875 880

Ala Leu Met Ser Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu  
885 890 895

Asn Val Val Asn Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu  
900 905 910

Met Val Ile Val Glu Phe Cys Lys Phe Gly Asn Leu Ser Thr Tyr Leu  
915 920 925

Arg Ser Lys Arg Asn Glu Phe Val Pro Tyr Lys Thr Lys Gly Ala Arg  
930 935 940

Phe Arg Gln Gly Lys Asp Tyr Val Gly Ala Ile Pro Val Asp Leu Lys  
945 950 955 960

Arg Arg Leu Asp Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly  
965 970 975

Phe Val Glu Glu Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Pro  
980 985 990

Glu Asp Leu Tyr Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr  
995 1000 1005

Ser Phe Gln Val Ala Lys Gly Met Glu Phe Leu Ala Ser Arg Lys  
1010 1015 1020

Cys	Ile	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Ile	Leu	Leu	Ser	Glu
1025						1030					1035			
Lys	Asn	Val	Val	Lys	Ile	Cys	Asp	Phe	Gly	Leu	Ala	Arg	Asp	Ile
1040						1045					1050			
Tyr	Lys	Asp	Pro	Asp	Tyr	Val	Arg	Lys	Gly	Asp	Ala	Arg	Leu	Pro
1055						1060					1065			
Leu	Lys	Trp	Met	Ala	Pro	Glu	Thr	Ile	Phe	Asp	Arg	Val	Tyr	Thr
1070						1075					1080			
Ile	Gln	Ser	Asp	Val	Trp	Ser	Phe	Gly	Val	Leu	Leu	Trp	Glu	Ile
1085						1090					1095			
Phe	Ser	Leu	Gly	Ala	Ser	Pro	Tyr	Pro	Gly	Val	Lys	Ile	Asp	Glu
1100						1105					1110			
Glu	Phe	Cys	Arg	Arg	Leu	Lys	Glu	Gly	Thr	Arg	Met	Arg	Ala	Pro
1115						1120					1125			
Asp	Tyr	Thr	Thr	Pro	Glu	Met	Tyr	Gln	Thr	Met	Leu	Asp	Cys	Trp
1130						1135					1140			
His	Gly	Glu	Pro	Ser	Gln	Arg	Pro	Thr	Phe	Ser	Glu	Leu	Val	Glu
1145						1150					1155			
His	Leu	Gly	Asn	Leu	Leu	Gln	Ala	Asn	Ala	Gln	Gln	Asp	Gly	Lys
1160						1165					1170			
Asp	Tyr	Ile	Val	Leu	Pro	Ile	Ser	Glu	Thr	Leu	Ser	Met	Glu	Glu
1175						1180					1185			
Asp	Ser	Gly	Leu	Ser	Leu	Pro	Thr	Ser	Pro	Val	Ser	Cys	Met	Glu
1190						1195					1200			
Glu	Glu	Glu	Val	Cys	Asp	Pro	Lys	Phe	His	Tyr	Asp	Asn	Thr	Ala
1205						1210					1215			
Gly	Ile	Ser	Gln	Tyr	Leu	Gln	Asn	Ser	Lys	Arg	Lys	Ser	Arg	Pro
1220						1225					1230			
Val	Ser	Val	Lys	Thr	Phe	Glu	Asp	Ile	Pro	Leu	Glu	Glu	Pro	Glu

1235		1240		1245
Val Lys	Val Ile Pro Asp Asp	Asn Gln Thr Asp	Ser Gly Met Val	
1250		1255	1260	
Leu Ala	Ser Glu Glu Leu Lys	Thr Leu Glu Asp	Arg Thr Lys Leu	
1265		1270	1275	
Ser Pro	Ser Phe Gly Gly Met	Val Pro Ser Lys	Ser Arg Glu Ser	
1280		1285	1290	
Val Ala	Ser Glu Gly Ser Asn	Gln Thr Ser Gly Tyr	Gln Ser Gly	
1295		1300	1305	
Tyr His	Ser Asp Asp Thr Asp	Thr Thr Val Tyr	Ser Ser Glu Glu	
1310		1315	1320	
Ala Glu	Leu Leu Lys Leu Ile	Glu Ile Gly Val	Gln Thr Gly Ser	
1325		1330	1335	
Thr Ala	Gln Ile Leu Gln Pro	Asp Ser Gly Thr	Thr Leu Ser Ser	
1340		1345	1350	
Pro Pro	Val			
1355				
<210>	21			
<211>	569			
<212>	PRT			
<213>	Homo sapiens			
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Met Lys Val Leu Leu Arg Leu Ile Cys Phe Ile Ala Leu Leu Ile Ser				
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Ser Leu Glu Ala Asp Lys Cys Lys Glu Arg Glu Glu Lys Ile Ile Leu				
	20	25	30	
Val Ser Ser Ala Asn Glu Ile Asp Val Arg Pro Cys Pro Leu Asn Pro				
	35	40	45	
Asn Glu His Lys Gly Thr Ile Thr Trp Tyr Lys Asp Asp Ser Lys Thr				
50	55	60		

Pro Val Ser Thr Glu Gln Ala Ser Arg Ile His Gln His Lys Glu Lys  
65 70 75 80

Leu Trp Phe Val Pro Ala Lys Val Glu Asp Ser Gly His Tyr Tyr Cys  
85 90 95

Val Val Arg Asn Ser Ser Tyr Cys Leu Arg Ile Lys Ile Ser Ala Lys  
100 105 110

Phe Val Glu Asn Glu Pro Asn Leu Cys Tyr Asn Ala Gln Ala Ile Phe  
115 120 125

Lys Gln Lys Leu Pro Val Ala Gly Asp Gly Gly Leu Val Cys Pro Tyr  
130 135 140

Met Glu Phe Phe Lys Asn Glu Asn Asn Glu Leu Pro Lys Leu Gln Trp  
145 150 155 160

Tyr Lys Asp Cys Lys Pro Leu Leu Leu Asp Asn Ile His Phe Ser Gly  
165 170 175

Val Lys Asp Arg Leu Ile Val Met Asn Val Ala Glu Lys His Arg Gly  
180 185 190

Asn Tyr Thr Cys His Ala Ser Tyr Thr Tyr Leu Gly Lys Gln Tyr Pro  
195 200 205

Ile Thr Arg Val Ile Glu Phe Ile Thr Leu Glu Glu Asn Lys Pro Thr  
210 215 220

Arg Pro Val Ile Val Ser Pro Ala Asn Glu Thr Met Glu Val Asp Leu  
225 230 235 240

Gly Ser Gln Ile Gln Leu Ile Cys Asn Val Thr Gly Gln Leu Ser Asp  
245 250 255

Ile Ala Tyr Trp Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro  
260 265 270

Val Leu Gly Glu Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg  
275 280 285

Arg Ser Thr Leu Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg  
290 295 300

Phe Tyr Lys His Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile  
305 310 315 320

Asp Ala Ala Tyr Ile Gln Leu Ile Tyr Pro Val Thr Asn Phe Gln Lys  
325 330 335

His Met Ile Gly Ile Cys Val Thr Leu Thr Val Ile Ile Val Cys Ser  
340 345 350

Val Phe Ile Tyr Lys Ile Phe Lys Ile Asp Ile Val Leu Trp Tyr Arg  
355 360 365

Asp Ser Cys Tyr Asp Phe Leu Pro Ile Lys Ala Ser Asp Gly Lys Thr  
370 375 380

Tyr Asp Ala Tyr Ile Leu Tyr Pro Lys Thr Val Gly Glu Gly Ser Thr  
385 390 395 400

Ser Asp Cys Asp Ile Phe Val Phe Lys Val Leu Pro Glu Val Leu Glu  
405 410 415

Lys Gln Cys Gly Tyr Lys Leu Phe Ile Tyr Gly Arg Asp Asp Tyr Val  
420 425 430

Gly Glu Asp Ile Val Glu Val Ile Asn Glu Asn Val Lys Lys Ser Arg  
435 440 445

Arg Leu Ile Ile Ile Leu Val Arg Glu Thr Ser Gly Phe Ser Trp Leu  
450 455 460

Gly Gly Ser Ser Glu Glu Gln Ile Ala Met Tyr Asn Ala Leu Val Gln  
465 470 475 480

Asp Gly Ile Lys Val Val Leu Leu Glu Leu Glu Lys Ile Gln Asp Tyr  
485 490 495

Glu Lys Met Pro Glu Ser Ile Lys Phe Ile Lys Gln Lys His Gly Ala  
500 505 510

Ile Arg Trp Ser Gly Asp Phe Thr Gln Gly Pro Gln Ser Ala Lys Thr

515

520

525

Arg Phe Trp Lys Asn Val Arg Tyr His Met Pro Val Gln Arg Arg Ser  
 530 535 540

Pro Ser Ser Lys His Gln Leu Leu Ser Pro Ala Thr Lys Glu Lys Leu  
 545 550 555 560

Gln Arg Glu Ala His Val Pro Leu Gly  
 565

<210> 22

<211> 570

<212> PRT

<213> Homo sapiens

<400> 22

Met Thr Leu Leu Trp Cys Val Val Ser Leu Tyr Phe Tyr Gly Ile Leu  
 1 5 10 15

Gln Ser Asp Ala Ser Glu Arg Cys Asp Asp Trp Gly Leu Asp Thr Met  
 20 25 30

Arg Gln Ile Gln Val Phe Glu Asp Glu Pro Ala Arg Ile Lys Cys Pro  
 35 40 45

Leu Phe Glu His Phe Leu Lys Phe Asn Tyr Ser Thr Ala His Ser Ala  
 50 55 60

Gly Leu Thr Leu Ile Trp Tyr Trp Thr Arg Gln Asp Arg Asp Leu Glu  
 65 70 75 80

Glu Pro Ile Asn Phe Arg Leu Pro Glu Asn Arg Ile Ser Lys Glu Lys  
 85 90 95

Asp Val Leu Trp Phe Arg Pro Thr Leu Leu Asn Asp Thr Gly Asn Tyr  
 100 105 110

Thr Cys Met Leu Arg Asn Thr Thr Tyr Cys Ser Lys Val Ala Phe Pro  
 115 120 125

Leu Glu Val Val Gln Lys Asp Ser Cys Phe Asn Ser Pro Met Lys Leu  
 130 135 140

Pro Val His Lys Leu Tyr Ile Glu Tyr Gly Ile Gln Arg Ile Thr Cys  
 145 150 155 160

Pro Asn Val Asp Gly Tyr Phe Pro Ser Ser Val Lys Pro Thr Ile Thr  
 165 170 175

Trp Tyr Met Gly Cys Tyr Lys Ile Gln Asn Phe Asn Asn Val Ile Pro  
 180 185 190

Glu Gly Met Asn Leu Ser Phe Leu Ile Ala Leu Ile Ser Asn Asn Gly  
 195 200 205

Asn Tyr Thr Cys Val Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe His  
 210 215 220

Leu Thr Arg Thr Leu Thr Val Lys Val Val Gly Ser Pro Lys Asn Ala  
 225 230 235 240

Val Pro Pro Val Ile His Ser Pro Asn Asp His Val Val Tyr Glu Lys  
 245 250 255

Glu Pro Gly Glu Glu Leu Leu Ile Pro Cys Thr Val Tyr Phe Ser Phe  
 260 265 270

Leu Met Asp Ser Arg Asn Glu Val Trp Trp Thr Ile Asp Gly Lys Lys  
 275 280 285

Pro Asp Asp Ile Thr Ile Asp Val Thr Ile Asn Glu Ser Ile Ser His  
 290 295 300

Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln Ile Leu Ser Ile Lys Lys  
 305 310 315 320

Val Thr Ser Glu Asp Leu Lys Arg Ser Tyr Val Cys His Ala Arg Ser  
 325 330 335

Ala Lys Gly Glu Val Ala Lys Ala Ala Lys Val Lys Gln Lys Val Pro  
 340 345 350

Ala Pro Arg Tyr Thr Val Glu Leu Ala Cys Gly Phe Gly Ala Thr Val  
 355 360 365



Leu Leu Val Val Ile Leu Ile Val Val Tyr His Val Tyr Trp Leu Glu  
370 375 380

Met Val Leu Phe Tyr Arg Ala His Phe Gly Thr Asp Glu Thr Ile Leu  
385 390 395 400

Asp Gly Lys Glu Tyr Asp Ile Tyr Val Ser Tyr Ala Arg Asn Ala Glu  
405 410 415

Glu Glu Glu Phe Val Leu Leu Thr Leu Arg Gly Val Leu Glu Asn Glu  
420 425 430

Phe Gly Tyr Lys Leu Cys Ile Phe Asp Arg Asp Ser Leu Pro Gly Gly  
435 440 445

Ile Val Thr Asp Glu Thr Leu Ser Phe Ile Gln Lys Ser Arg Arg Leu  
450 455 460

Leu Val Val Leu Ser Pro Asn Tyr Val Leu Gln Gly Thr Gln Ala Leu  
465 470 475 480

Leu Glu Leu Lys Ala Gly Leu Glu Asn Met Ala Ser Arg Gly Asn Ile  
485 490 495

Asn Val Ile Leu Val Gln Tyr Lys Ala Val Lys Glu Thr Lys Val Lys  
500 505 510

Glu Leu Lys Arg Ala Lys Thr Val Leu Thr Val Ile Lys Trp Lys Gly  
515 520 525

Glu Lys Ser Lys Tyr Pro Gln Gly Arg Phe Trp Lys Gln Leu Gln Val  
530 535 540

Ala Met Pro Val Lys Lys Ser Pro Arg Arg Ser Ser Ser Asp Glu Gln  
545 550 555 560

Gly Leu Ser Tyr Ser Ser Leu Lys Asn Val  
565 570

<210> 23  
<211> 1367  
<212> PRT  
<213> Homo sapiens

<400> 23

Met Lys Ser Gly Ser Gly Gly Gly Ser Pro Thr Ser Leu Trp Gly Leu  
1 5 10 15

Leu Phe Leu Ser Ala Ala Leu Ser Leu Trp Pro Thr Ser Gly Glu Ile  
20 25 30

Cys Gly Pro Gly Ile Asp Ile Arg Asn Asp Tyr Gln Gln Leu Lys Arg  
35 40 45

Leu Glu Asn Cys Thr Val Ile Glu Gly Tyr Leu His Ile Leu Leu Ile  
50 55 60

Ser Lys Ala Glu Asp Tyr Arg Ser Tyr Arg Phe Pro Lys Leu Thr Val  
65 70 75 80

Ile Thr Glu Tyr Leu Leu Leu Phe Arg Val Ala Gly Leu Glu Ser Leu  
85 90 95

Gly Asp Leu Phe Pro Asn Leu Thr Val Ile Arg Gly Trp Lys Leu Phe  
100 105 110

Tyr Asn Tyr Ala Leu Val Ile Phe Glu Met Thr Asn Leu Lys Asp Ile  
115 120 125

Gly Leu Tyr Asn Leu Arg Asn Ile Thr Arg Gly Ala Ile Arg Ile Glu  
130 135 140

Lys Asn Ala Asp Leu Cys Tyr Leu Ser Thr Val Asp Trp Ser Leu Ile  
145 150 155 160

Leu Asp Ala Val Ser Asn Asn Tyr Ile Val Gly Asn Lys Pro Pro Lys  
165 170 175

Glu Cys Gly Asp Leu Cys Pro Gly Thr Met Glu Glu Lys Pro Met Cys  
180 185 190

Glu Lys Thr Thr Ile Asn Asn Glu Tyr Asn Tyr Arg Cys Trp Thr Thr  
195 200 205

Asn Arg Cys Gln Lys Met Cys Pro Ser Thr Cys Gly Lys Arg Ala Cys  
210 215 220

Thr Glu Asn Asn Glu Cys Cys His Pro Glu Cys Leu Gly Ser Cys Ser  
225 230 235 240

Ala Pro Asp Asn Asp Thr Ala Cys Val Ala Cys Arg His Tyr Tyr Tyr  
245 250 255

Ala Gly Val Cys Val Pro Ala Cys Pro Pro Asn Thr Tyr Arg Phe Glu  
260 265 270

Gly Trp Arg Cys Val Asp Arg Asp Phe Cys Ala Asn Ile Leu Ser Ala  
275 280 285

Glu Ser Ser Asp Ser Glu Gly Phe Val Ile His Asp Gly Glu Cys Met  
290 295 300

Gln Glu Cys Pro Ser Gly Phe Ile Arg Asn Gly Ser Gln Ser Met Tyr  
305 310 315 320

Cys Ile Pro Cys Glu Gly Pro Cys Pro Lys Val Cys Glu Glu Glu Lys  
325 330 335

Lys Thr Lys Thr Ile Asp Ser Val Thr Ser Ala Gln Met Leu Gln Gly  
340 345 350

Cys Thr Ile Phe Lys Gly Asn Leu Leu Ile Asn Ile Arg Arg Gly Asn  
355 360 365

Asn Ile Ala Ser Glu Leu Glu Asn Phe Met Gly Leu Ile Glu Val Val  
370 375 380

Thr Gly Tyr Val Lys Ile Arg His Ser His Ala Leu Val Ser Leu Ser  
385 390 395 400

Phe Leu Lys Asn Leu Arg Leu Ile Leu Gly Glu Glu Gln Leu Glu Gly  
405 410 415

Asn Tyr Ser Phe Tyr Val Leu Asp Asn Gln Asn Leu Gln Gln Leu Trp  
420 425 430

Asp Trp Asp His Arg Asn Leu Thr Ile Lys Ala Gly Lys Met Tyr Phe  
435 440 445

Ala Phe Asn Pro Lys Leu Cys Val Ser Glu Ile Tyr Arg Met Glu Glu  
450 455 460

Val Thr Gly Thr Lys Gly Arg Gln Ser Lys Gly Asp Ile Asn Thr Arg  
465 470 475 480

Asn Asn Gly Glu Arg Ala Ser Cys Glu Ser Asp Val Leu His Phe Thr  
485 490 495

Ser Thr Thr Thr Ser Lys Asn Arg Ile Ile Ile Thr Trp His Arg Tyr  
500 505 510

Arg Pro Pro Asp Tyr Arg Asp Leu Ile Ser Phe Thr Val Tyr Tyr Lys  
515 520 525

Glu Ala Pro Phe Lys Asn Val Thr Glu Tyr Asp Gly Gln Asp Ala Cys  
530 535 540

Gly Ser Asn Ser Trp Asn Met Val Asp Val Asp Leu Pro Pro Asn Lys  
545 550 555 560

Asp Val Glu Pro Gly Ile Leu Leu His Gly Leu Lys Pro Trp Thr Gln  
565 570 575

Tyr Ala Val Tyr Val Lys Ala Val Thr Leu Thr Met Val Glu Asn Asp  
580 585 590

His Ile Arg Gly Ala Lys Ser Glu Ile Leu Tyr Ile Arg Thr Asn Ala  
595 600 605

Ser Val Pro Ser Ile Pro Leu Asp Val Leu Ser Ala Ser Asn Ser Ser  
610 615 620

Ser Gln Leu Ile Val Lys Trp Asn Pro Pro Ser Leu Pro Asn Gly Asn  
625 630 635 640

Leu Ser Tyr Tyr Ile Val Arg Trp Gln Arg Gln Pro Gln Asp Gly Tyr  
645 650 655

Leu Tyr Arg His Asn Tyr Cys Ser Lys Asp Lys Ile Pro Ile Arg Lys  
660 665 670

Tyr Ala Asp Gly Thr Ile Asp Ile Glu Glu Val Thr Glu Asn Pro Lys

675

680

685

Thr Glu Val Cys Gly Gly Glu Lys Gly Pro Cys Cys Ala Cys Pro Lys  
 690 695 700

Thr Glu Ala Glu Lys Gln Ala Glu Lys Glu Glu Ala Glu Tyr Arg Lys  
 705 710 715 720

Val Phe Glu Asn Phe Leu His Asn Ser Ile Phe Val Pro Arg Pro Glu  
 725 730 735

Arg Lys Arg Arg Asp Val Met Gln Val Ala Asn Thr Thr Met Ser Ser  
 740 745 750

Arg Ser Arg Asn Thr Thr Ala Ala Asp Thr Tyr Asn Ile Thr Asp Pro  
 755 760 765

Glu Glu Leu Glu Thr Glu Tyr Pro Phe Phe Glu Ser Arg Val Asp Asn  
 770 775 780

Lys Glu Arg Thr Val Ile Ser Asn Leu Arg Pro Phe Thr Leu Tyr Arg  
 785 790 795 800

Ile Asp Ile His Ser Cys Asn His Glu Ala Glu Lys Leu Gly Cys Ser  
 805 810 815

Ala Ser Asn Phe Val Phe Ala Arg Thr Met Pro Ala Glu Gly Ala Asp  
 820 825 830

Asp Ile Pro Gly Pro Val Thr Trp Glu Pro Arg Pro Glu Asn Ser Ile  
 835 840 845

Phe Leu Lys Trp Pro Glu Pro Glu Asn Pro Asn Gly Leu Ile Leu Met  
 850 855 860

Tyr Glu Ile Lys Tyr Gly Ser Gln Val Glu Asp Gln Arg Glu Cys Val  
 865 870 875 880

Ser Arg Gln Glu Tyr Arg Lys Tyr Gly Gly Ala Lys Leu Asn Arg Leu  
 885 890 895

Asn Pro Gly Asn Tyr Thr Ala Arg Ile Gln Ala Thr Ser Leu Ser Gly  
 900 905 910

Asn Gly Ser Trp Thr Asp Pro Val Phe Phe Tyr Val Gln Ala Lys Thr  
915 920 925

Gly Tyr Glu Asn Phe Ile His Leu Ile Ile Ala Leu Pro Val Ala Val  
930 935 940

Leu Leu Ile Val Gly Gly Leu Val Ile Met Leu Tyr Val Phe His Arg  
945 950 955 960

Lys Arg Asn Asn Ser Arg Leu Gly Asn Gly Val Leu Tyr Ala Ser Val  
965 970 975

Asn Pro Glu Tyr Phe Ser Ala Ala Asp Val Tyr Val Pro Asp Glu Trp  
980 985 990

Glu Val Ala Arg Glu Lys Ile Thr Met Ser Arg Glu Leu Gly Gln Gly  
995 1000 1005

Ser Phe Gly Met Val Tyr Glu Gly Val Ala Lys Gly Val Val Lys  
1010 1015 1020

Asp Glu Pro Glu Thr Arg Val Ala Ile Lys Thr Val Asn Glu Ala  
1025 1030 1035

Ala Ser Met Arg Glu Arg Ile Glu Phe Leu Asn Glu Ala Ser Val  
1040 1045 1050

Met Lys Glu Phe Asn Cys His His Val Val Arg Leu Leu Gly Val  
1055 1060 1065

Val Ser Gln Gly Gln Pro Thr Leu Val Ile Met Glu Leu Met Thr  
1070 1075 1080

Arg Gly Asp Leu Lys Ser Tyr Leu Arg Ser Leu Arg Pro Glu Met  
1085 1090 1095

Glu Asn Asn Pro Val Leu Ala Pro Pro Ser Leu Ser Lys Met Ile  
1100 1105 1110

Gln Met Ala Gly Glu Ile Ala Asp Gly Met Ala Tyr Leu Asn Ala  
1115 1120 1125

Asn Lys	Phe Val His Arg	Asp	Leu Ala Ala Arg	Asn	Cys Met Val
1130		1135		1140	
Ala Glu	Asp Phe Thr Val	Lys	Ile Gly Asp Phe	Gly	Met Thr Arg
1145		1150		1155	
Asp Ile	Tyr Glu Thr Asp	Tyr	Tyr Arg Lys Gly	Gly	Lys Gly Leu
1160		1165		1170	
Leu Pro	Val Arg Trp Met	Ser	Pro Glu Ser Leu	Lys	Asp Gly Val
1175		1180		1185	
Phe Thr	Thr Tyr Ser Asp	Val	Trp Ser Phe Gly	Val	Val Leu Trp
1190		1195		1200	
Glu Ile	Ala Thr Leu Ala	Glu	Gln Pro Tyr Gln	Gly	Leu Ser Asn
1205		1210		1215	
Glu Gln	Val Leu Arg Phe	Val	Met Glu Gly Gly	Leu	Leu Asp Lys
1220		1225		1230	
Pro Asp	Asn Cys Pro Asp	Met	Leu Phe Glu Leu	Met	Arg Met Cys
1235		1240		1245	
Trp Gln	Tyr Asn Pro Lys	Met	Arg Pro Ser Phe	Leu	Glu Ile Ile
1250		1255		1260	
Ser Ser	Ile Lys Glu Glu	Met	Glu Pro Gly Phe	Arg	Glu Val Ser
1265		1270		1275	
Phe Tyr	Tyr Ser Glu Glu	Asn	Lys Leu Pro Glu	Pro	Glu Glu Leu
1280		1285		1290	
Asp Leu	Glu Pro Glu Asn	Met	Glu Ser Val Pro	Leu	Asp Pro Ser
1295		1300		1305	
Ala Ser	Ser Ser Ser Leu	Pro	Leu Pro Asp Arg	His	Ser Gly His
1310		1315		1320	
Lys Ala	Glu Asn Gly Pro	Gly	Pro Gly Val Leu	Val	Leu Arg Ala
1325		1330		1335	

Ser Phe Asp Glu Arg Gln Pro Tyr Ala His Met Asn Gly Gly Arg  
 1340 1345 1350

Lys Asn Glu Arg Ala Leu Pro Leu Pro Gln Ser Ser Thr Cys  
 1355 1360 1365

<210> 24  
 <211> 825  
 <212> PRT  
 <213> Homo sapiens

<400> 24

Met Gly Trp Leu Cys Ser Gly Leu Leu Phe Pro Val Ser Cys Leu Val  
 1 5 10 15

Leu Leu Gln Val Ala Ser Ser Gly Asn Met Lys Val Leu Gln Glu Pro  
 20 25 30

Thr Cys Val Ser Asp Tyr Met Ser Ile Ser Thr Cys Glu Trp Lys Met  
 35 40 45

Asn Gly Pro Thr Asn Cys Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu  
 50 55 60

Val Phe Leu Leu Ser Glu Ala His Thr Cys Ile Pro Glu Asn Asn Gly  
 65 70 75 80

Gly Ala Gly Cys Val Cys His Leu Leu Met Asp Asp Val Val Ser Ala  
 85 90 95

Asp Asn Tyr Thr Leu Asp Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys  
 100 105 110

Gly Ser Phe Lys Pro Ser Glu His Val Lys Pro Arg Ala Pro Gly Asn  
 115 120 125

Leu Thr Val His Thr Asn Val Ser Asp Thr Leu Leu Leu Thr Trp Ser  
 130 135 140

Asn Pro Tyr Pro Pro Asp Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala  
 145 150 155 160

Val Asn Ile Trp Ser Glu Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn  
 165 170 175



Val Thr Tyr Leu Glu Pro Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys  
180 185 190

Ser Gly Ile Ser Tyr Arg Ala Arg Val Arg Ala Trp Ala Gln Cys Tyr  
195 200 205

Asn Thr Thr Trp Ser Glu Trp Ser Pro Ser Thr Lys Trp His Asn Ser  
210 215 220

Tyr Arg Glu Pro Phe Glu Gln His Leu Leu Leu Gly Val Ser Val Ser  
225 230 235 240

Cys Ile Val Ile Leu Ala Val Cys Leu Leu Cys Tyr Val Ser Ile Thr  
245 250 255

Lys Ile Lys Lys Glu Trp Trp Asp Gln Ile Pro Asn Pro Ala Arg Ser  
260 265 270

Arg Leu Val Ala Ile Ile Ile Gln Asp Ala Gln Gly Ser Gln Trp Glu  
275 280 285

Lys Arg Ser Arg Gly Gln Glu Pro Ala Lys Cys Pro His Trp Lys Asn  
290 295 300

Cys Leu Thr Lys Leu Leu Pro Cys Phe Leu Glu His Asn Met Lys Arg  
305 310 315 320

Asp Glu Asp Pro His Lys Ala Ala Lys Glu Met Pro Phe Gln Gly Ser  
325 330 335

Gly Lys Ser Ala Trp Cys Pro Val Glu Ile Ser Lys Thr Val Leu Trp  
340 345 350

Pro Glu Ser Ile Ser Val Val Arg Cys Val Glu Leu Phe Glu Ala Pro  
355 360 365

Val Glu Cys Glu Glu Glu Glu Glu Val Glu Glu Glu Lys Gly Ser Phe  
370 375 380

Cys Ala Ser Pro Glu Ser Ser Arg Asp Asp Phe Gln Glu Gly Arg Glu  
385 390 395 400

Gly Ile Val Ala Arg Leu Thr Glu Ser Leu Phe Leu Asp Leu Leu Gly  
405 410 415

Glu Glu Asn Gly Gly Phe Cys Gln Gln Asp Met Gly Glu Ser Cys Leu  
420 425 430

Leu Pro Pro Ser Gly Ser Thr Ser Ala His Met Pro Trp Asp Glu Phe  
435 440 445

Pro Ser Ala Gly Pro Lys Glu Ala Pro Pro Trp Gly Lys Glu Gln Pro  
450 455 460

Leu His Leu Glu Pro Ser Pro Pro Ala Ser Pro Thr Gln Ser Pro Asp  
465 470 475 480

Asn Leu Thr Cys Thr Glu Thr Pro Leu Val Ile Ala Gly Asn Pro Ala  
485 490 495

Tyr Arg Ser Phe Ser Asn Ser Leu Ser Gln Ser Pro Cys Pro Arg Glu  
500 505 510

Leu Gly Pro Asp Pro Leu Leu Ala Arg His Leu Glu Glu Val Glu Pro  
515 520 525

Glu Met Pro Cys Val Pro Gln Leu Ser Glu Pro Thr Thr Val Pro Gln  
530 535 540

Pro Glu Pro Glu Thr Trp Glu Gln Ile Leu Arg Arg Asn Val Leu Gln  
545 550 555 560

His Gly Ala Ala Ala Ala Pro Val Ser Ala Pro Thr Ser Gly Tyr Gln  
565 570 575

Glu Phe Val His Ala Val Glu Gln Gly Gly Thr Gln Ala Ser Ala Val  
580 585 590

Val Gly Leu Gly Pro Pro Gly Glu Ala Gly Tyr Lys Ala Phe Ser Ser  
595 600 605

Leu Leu Ala Ser Ser Ala Val Ser Pro Glu Lys Cys Gly Phe Gly Ala  
610 615 620

Ser Ser Gly Glu Glu Gly Tyr Lys Pro Phe Gln Asp Leu Ile Pro Gly  
625 630 635 640

Cys Pro Gly Asp Pro Ala Pro Val Pro Val Pro Leu Phe Thr Phe Gly  
645 650 655

Leu Asp Arg Glu Pro Pro Arg Ser Pro Gln Ser Ser His Leu Pro Ser  
660 665 670

Ser Ser Pro Glu His Leu Gly Leu Glu Pro Gly Glu Lys Val Glu Asp  
675 680 685

Met Pro Lys Pro Pro Leu Pro Gln Glu Gln Ala Thr Asp Pro Leu Val  
690 695 700

Asp Ser Leu Gly Ser Gly Ile Val Tyr Ser Ala Leu Thr Cys His Leu  
705 710 715 720

Cys Gly His Leu Lys Gln Cys His Gly Gln Glu Asp Gly Gly Gln Thr  
725 730 735

Pro Val Met Ala Ser Pro Cys Cys Gly Cys Cys Cys Gly Asp Arg Ser  
740 745 750

Ser Pro Pro Thr Thr Pro Leu Arg Ala Pro Asp Pro Ser Pro Gly Gly  
755 760 765

Val Pro Leu Glu Ala Ser Leu Cys Pro Ala Ser Leu Ala Pro Ser Gly  
770 775 780

Ile Ser Glu Lys Ser Lys Ser Ser Ser Ser Phe His Pro Ala Pro Gly  
785 790 795 800

Asn Ala Gln Ser Ser Ser Gln Thr Pro Lys Ile Val Asn Phe Val Ser  
805 810 815

Val Gly Pro Thr Tyr Met Arg Val Ser  
820 825

<210> 25

<211> 569

<212> PRT

<213> Homo sapiens

<400> 25

Met Lys Val Leu Leu Arg Leu Ile Cys Phe Ile Ala Leu Leu Ile Ser  
1 5 10 15

Ser Leu Glu Ala Asp Lys Cys Lys Glu Arg Glu Glu Lys Ile Ile Leu  
20 25 30

Val Ser Ser Ala Asn Glu Ile Asp Val Arg Pro Cys Pro Leu Asn Pro  
35 40 45

Asn Glu His Lys Gly Thr Ile Thr Trp Tyr Lys Asp Asp Ser Lys Thr  
50 55 60

Pro Val Ser Thr Glu Gln Ala Ser Arg Ile His Gln His Lys Glu Lys  
65 70 75 80

Leu Trp Phe Val Pro Ala Lys Val Glu Asp Ser Gly His Tyr Tyr Cys  
85 90 95

Val Val Arg Asn Ser Ser Tyr Cys Leu Arg Ile Lys Ile Ser Ala Lys  
100 105 110

Phe Val Glu Asn Glu Pro Asn Leu Cys Tyr Asn Ala Gln Ala Ile Phe  
115 120 125

Lys Gln Lys Leu Pro Val Ala Gly Asp Gly Gly Leu Val Cys Pro Tyr  
130 135 140

Met Glu Phe Phe Lys Asn Glu Asn Asn Glu Leu Pro Lys Leu Gln Trp  
145 150 155 160

Tyr Lys Asp Cys Lys Pro Leu Leu Leu Asp Asn Ile His Phe Ser Gly  
165 170 175

Val Lys Asp Arg Leu Ile Val Met Asn Val Ala Glu Lys His Arg Gly  
180 185 190

Asn Tyr Thr Cys His Ala Ser Tyr Thr Tyr Leu Gly Lys Gln Tyr Pro  
195 200 205

Ile Thr Arg Val Ile Glu Phe Ile Thr Leu Glu Glu Asn Lys Pro Thr  
210 215 220

Arg Pro Val Ile Val Ser Pro Ala Asn Glu Thr Met Glu Val Asp Leu  
225 230 235 240

Gly Ser Gln Ile Gln Leu Ile Cys Asn Val Thr Gly Gln Leu Ser Asp  
245 250 255

Ile Ala Tyr Trp Lys Trp Asn Gly Ser Val Ile Asp Glu Asp Asp Pro  
260 265 270

Val Leu Gly Glu Asp Tyr Tyr Ser Val Glu Asn Pro Ala Asn Lys Arg  
275 280 285

Arg Ser Thr Leu Ile Thr Val Leu Asn Ile Ser Glu Ile Glu Ser Arg  
290 295 300

Phe Tyr Lys His Pro Phe Thr Cys Phe Ala Lys Asn Thr His Gly Ile  
305 310 315 320

Asp Ala Ala Tyr Ile Gln Leu Ile Tyr Pro Val Thr Asn Phe Gln Lys  
325 330 335

His Met Ile Gly Ile Cys Val Thr Leu Thr Val Ile Ile Val Cys Ser  
340 345 350

Val Phe Ile Tyr Lys Ile Phe Lys Ile Asp Ile Val Leu Trp Tyr Arg  
355 360 365

Asp Ser Cys Tyr Asp Phe Leu Pro Ile Lys Ala Ser Asp Gly Lys Thr  
370 375 380

Tyr Asp Ala Tyr Ile Leu Tyr Pro Lys Thr Val Gly Glu Gly Ser Thr  
385 390 395 400

Ser Asp Cys Asp Ile Phe Val Phe Lys Val Leu Pro Glu Val Leu Glu  
405 410 415

Lys Gln Cys Gly Tyr Lys Leu Phe Ile Tyr Gly Arg Asp Asp Tyr Val  
420 425 430

Gly Glu Asp Ile Val Glu Val Ile Asn Glu Asn Val Lys Lys Ser Arg  
435 440 445

Arg Leu Ile Ile Ile Leu Val Arg Glu Thr Ser Gly Phe Ser Trp Leu  
450 455 460

Gly Gly Ser Ser Glu Glu Gln Ile Ala Met Tyr Asn Ala Leu Val Gln  
465 470 475 480

Asp Gly Ile Lys Val Val Leu Leu Glu Leu Glu Lys Ile Gln Asp Tyr  
485 490 495

Glu Lys Met Pro Glu Ser Ile Lys Phe Ile Lys Gln Lys His Gly Ala  
500 505 510

Ile Arg Trp Ser Gly Asp Phe Thr Gln Gly Pro Gln Ser Ala Lys Thr  
515 520 525

Arg Phe Trp Lys Asn Val Arg Tyr His Met Pro Val Gln Arg Arg Ser  
530 535 540

Pro Ser Ser Lys His Gln Leu Leu Ser Pro Ala Thr Lys Glu Lys Leu  
545 550 555 560

Gln Arg Glu Ala His Val Pro Leu Gly  
565

<210> 26  
<211> 576  
<212> PRT  
<213> Mus sp.

<400> 26

Met Glu Asn Met Lys Val Leu Leu Gly Leu Ile Cys Leu Met Val Pro  
1 5 10 15

Leu Leu Ser Leu Glu Ile Asp Val Cys Thr Glu Tyr Pro Asn Gln Ile  
20 25 30

Val Leu Phe Leu Ser Val Asn Glu Ile Asp Ile Arg Lys Cys Pro Leu  
35 40 45

Thr Pro Asn Lys Met His Gly Asp Thr Ile Ile Trp Tyr Lys Asn Asp  
50 55 60

Ser Lys Thr Pro Ile Ser Ala Asp Arg Asp Ser Arg Ile His Gln Gln  
65 70 75 80

Asn Glu His Leu Trp Phe Val Pro Ala Lys Val Glu Asp Ser Gly Tyr  
85 90 95

Tyr Tyr Cys Ile Val Arg Asn Ser Thr Tyr Cys Leu Lys Thr Lys Val  
100 105 110

Thr Val Thr Val Leu Glu Asn Asp Pro Gly Leu Cys Tyr Ser Thr Gln  
115 120 125

Ala Thr Phe Pro Gln Arg Leu His Ile Ala Gly Asp Gly Ser Leu Val  
130 135 140

Cys Pro Tyr Val Ser Tyr Phe Lys Asp Glu Asn Asn Glu Leu Pro Glu  
145 150 155 160

Val Gln Trp Tyr Lys Asn Cys Lys Pro Leu Leu Leu Asp Asn Val Ser  
165 170 175

Phe Phe Gly Val Lys Asp Lys Leu Leu Val Arg Asn Val Ala Glu Glu  
180 185 190

His Arg Gly Asp Tyr Ile Cys Arg Met Ser Tyr Thr Phe Arg Gly Lys  
195 200 205

Gln Tyr Pro Val Thr Arg Val Ile Gln Phe Ile Thr Ile Asp Glu Asn  
210 215 220

Lys Arg Asp Arg Pro Val Ile Leu Ser Pro Arg Asn Glu Thr Ile Glu  
225 230 235 240

Ala Asp Pro Gly Ser Met Ile Gln Leu Ile Cys Asn Val Thr Gly Gln  
245 250 255

Phe Ser Asp Leu Val Tyr Trp Lys Trp Asn Gly Ser Glu Ile Glu Trp  
260 265 270

Asn Asp Pro Phe Leu Ala Glu Asp Tyr Gln Phe Val Glu His Pro Ser  
275 280 285

Thr Lys Arg Lys Tyr Thr Leu Ile Thr Thr Leu Asn Ile Ser Glu Val  
290 295 300

Lys Ser Gln Phe Tyr Arg Tyr Pro Phe Ile Cys Val Val Lys Asn Thr  
305 310 315 320

Asn Ile Phe Glu Ser Ala His Val Gln Leu Ile Tyr Pro Val Pro Asp  
325 330 335

Phe Lys Asn Tyr Leu Ile Gly Gly Phe Ile Ile Leu Thr Ala Thr Ile  
340 345 350

Val Cys Cys Val Cys Ile Tyr Lys Val Phe Lys Val Asp Ile Val Leu  
355 360 365

Trp Tyr Arg Asp Ser Cys Ser Gly Phe Leu Pro Ser Lys Ala Ser Asp  
370 375 380

Gly Lys Thr Tyr Asp Ala Tyr Ile Leu Tyr Pro Lys Thr Leu Gly Glu  
385 390 395 400

Gly Ser Phe Ser Asp Leu Asp Thr Phe Val Phe Lys Leu Leu Pro Glu  
405 410 415

Val Leu Glu Gly Gln Phe Gly Tyr Lys Leu Phe Ile Tyr Gly Arg Asp  
420 425 430

Asp Tyr Val Gly Glu Asp Thr Ile Glu Val Thr Asn Glu Asn Val Lys  
435 440 445

Lys Ser Arg Arg Leu Ile Ile Ile Leu Val Arg Asp Met Gly Gly Phe  
450 455 460

Ser Trp Leu Gly Gln Ser Ser Glu Glu Gln Ile Ala Ile Tyr Asn Ala  
465 470 475 480

Leu Ile Gln Glu Gly Ile Lys Ile Val Leu Leu Glu Leu Glu Lys Ile  
485 490 495

Gln Asp Tyr Glu Lys Met Pro Asp Ser Ile Gln Phe Ile Lys Gln Lys  
500 505 510

His Gly Val Ile Cys Trp Ser Gly Asp Phe Gln Glu Arg Pro Gln Ser  
515 520 525



Ala Lys Thr Arg Phe Trp Lys Asn Leu Arg Tyr Gln Met Pro Ala Gln  
 530 535 540

Arg Arg Ser Pro Leu Ser Lys His Arg Leu Leu Thr Leu Asp Pro Val  
 545 550 555 560

Arg Asp Thr Lys Glu Lys Leu Pro Ala Ala Thr His Leu Pro Leu Gly  
 565 570 575

<210> 27  
 <211> 576  
 <212> PRT  
 <213> Rattus sp.

<400> 27

Met Glu Asn Met Lys Val Leu Leu Gly Phe Ile Cys Leu Ile Val Pro  
 1 5 10 15

Leu Leu Ser Leu Glu Thr Asp Lys Cys Thr Glu Tyr Pro Asn Glu Val  
 20 25 30

Ile Ser Phe Ser Ser Val Asn Glu Ile Asp Ile Arg Ser Cys Pro Leu  
 35 40 45

Thr Pro Asn Glu Met His Gly Gly Thr Ile Ile Trp Tyr Lys Asn Asp  
 50 55 60

Ser Lys Thr Pro Ile Ser Ala Asp Lys Asp Ser Arg Ile His Gln Gln  
 65 70 75 80

Asn Glu His Leu Trp Phe Val Pro Ala Lys Met Glu Asp Ser Gly Tyr  
 85 90 95

Tyr Tyr Cys Ile Met Arg Asn Ser Thr Tyr Cys Leu Lys Thr Lys Ile  
 100 105 110

Thr Met Ser Val Leu Glu Asn Asp Pro Gly Leu Cys Tyr Asn Thr Gln  
 115 120 125

Ala Ser Phe Ile Gln Arg Leu His Val Ala Gly Asp Gly Ser Leu Val  
 130 135 140

Cys Pro Tyr Leu Asp Phe Phe Lys Asp Glu Asn Asn Glu Leu Pro Lys  
 145 150 155 160

Val Gln Trp Tyr Lys Asn Cys Lys Pro Leu Pro Leu Asp Asp Gly Asn  
165 170 175

Phe Phe Gly Phe Lys Asn Lys Leu Met Val Met Asn Val Ala Glu Glu  
180 185 190

His Arg Gly Asn Tyr Thr Cys Arg Thr Ser Tyr Thr Tyr Gln Gly Lys  
195 200 205

Gln Tyr Pro Val Thr Arg Val Ile Thr Phe Ile Thr Ile Asp Asp Ser  
210 215 220

Lys Arg Asp Arg Pro Val Ile Met Ser Pro Arg Asn Glu Thr Met Glu  
225 230 235 240

Ala Asp Pro Gly Ser Thr Ile Gln Leu Ile Cys Asn Val Thr Gly Gln  
245 250 255

Phe Thr Asp Leu Val Tyr Trp Lys Trp Asn Gly Ser Glu Ile Glu Trp  
260 265 270

Asp Asp Pro Ile Leu Ala Glu Asp Tyr Gln Phe Leu Glu His Pro Ser  
275 280 285

Ala Lys Arg Lys Tyr Thr Leu Ile Thr Thr Leu Asn Val Ser Glu Val  
290 295 300

Lys Ser Gln Phe Tyr Arg Tyr Pro Phe Ile Cys Phe Val Lys Asn Thr  
305 310 315 320

His Ile Leu Glu Thr Ala His Val Arg Leu Val Tyr Pro Val Pro Asp  
325 330 335

Phe Lys Asn Tyr Leu Ile Gly Gly Phe Ala Ile Phe Thr Ala Thr Ala  
340 345 350

Val Phe Cys Ala Cys Ile Tyr Lys Val Phe Lys Val Asp Ile Val Leu  
355 360 365

Trp Tyr Arg Asp Ser Cys Ser Asp Phe Leu Pro Arg Lys Ala Ser Asp  
370 375 380

Gly Arg Thr Tyr Asp Ala Tyr Val Leu Tyr Pro Lys Thr Tyr Gly Glu  
385 390 395 400

Gly Ser Phe Ala Tyr Leu Asp Thr Phe Val Phe Lys Leu Leu Pro Glu  
405 410 415

Val Leu Glu Gly Gln Phe Gly Tyr Lys Leu Phe Ile Cys Gly Arg Asp  
420 425 430

Asp Tyr Val Gly Glu Asp Thr Ile Glu Val Thr Asn Glu Asn Val Lys  
435 440 445

Arg Ser Arg Arg Leu Ile Ile Ile Leu Val Arg Asp Met Gly Ser Phe  
450 455 460

Ser Cys Leu Gly Gln Ser Ser Glu Glu Gln Ile Ala Ile Tyr Asp Ala  
465 470 475 480

Leu Ile Arg Glu Gly Ile Lys Ile Ile Leu Leu Glu Leu Glu Lys Ile  
485 490 495

Gln Asp Tyr Glu Lys Met Pro Glu Ser Ile Gln Phe Ile Lys Gln Lys  
500 505 510

His Gly Ala Ile Cys Trp Ser Gly Asp Phe Lys Glu Arg Pro Gln Ser  
515 520 525

Ala Lys Thr Arg Phe Trp Lys Asn Leu Arg Tyr Gln Met Pro Ala Gln  
530 535 540

Arg Arg Ser Pro Leu Ser Lys His His Leu Leu Thr Leu Asp Pro Val  
545 550 555 560

Leu Asp Thr Lys Glu Lys Leu Gln Ala Glu Thr His Leu Pro Leu Gly  
565 570 575

<210> 28  
<211> 555  
<212> PRT  
<213> Equus sp.

<400> 28

Met His Lys Met Thr Ser Thr Phe Leu Leu Ile Gly His Leu Ile Leu

1	5	10	15
Leu Ile Pro	Leu Phe Ser	Ala Glu Glu Cys	Val Ile Cys Asn Tyr Phe
	20	25	30
Val Leu Val	Gly Glu Pro Thr	Ala Ile Ser Cys	Pro Val Ile Thr Leu
	35	40	45
Pro Met Leu	His Ser Asp Tyr	Asn Leu Thr Trp	Tyr Arg Asn Gly Ser
	50	55	60
Asn Met Pro	Ile Thr Thr Glu	Arg Arg Ala Arg	Ile His Gln Arg Lys
65	70	75	80
Gly Leu Leu	Trp Phe Ile Pro	Ala Ala Leu Glu	Asp Ser Gly Leu Tyr
	85	90	95
Glu Cys Glu	Val Arg Ser Leu	Asn Arg Ser Lys	Gln Lys Ile Ile Asn
	100	105	110
Leu Lys Val	Phe Lys Asn Asp	Asn Gly Leu Cys	Phe Asn Gly Glu Met
	115	120	125
Lys Tyr Asp	Gln Ile Val Lys	Ser Ala Asn Ala	Gly Lys Ile Ile Cys
	130	135	140
Pro Asp Leu	Glu Asn Phe Lys	Asp Glu Asp Asn	Ile Asn Pro Glu Ile
145	150	155	160
His Trp Tyr	Lys Glu Cys Lys	Ser Gly Phe Leu	Glu Asp Lys Arg Leu
	165	170	175
Val Leu Ala	Glu Gly Glu Asn	Ala Ile Leu Ile	Leu Asn Val Thr Ile
	180	185	190
Gln Asp Lys	Gly Asn Tyr Thr	Cys Arg Met Val	Tyr Thr Tyr Met Gly
	195	200	205
Lys Gln Tyr	Asn Val Ser Arg	Thr Met Asn Leu	Glu Val Lys Glu Ser
	210	215	220
Pro Leu Lys	Met Arg Pro Glu	Phe Ile Tyr Pro	Asn Asn Asn Thr Ile
225	230	235	240

Glu Val Glu Leu Gly Ser His Val Val Met Glu Cys Asn Val Ser Ser  
245 250 255

Gly Val Tyr Gly Leu Leu Pro Tyr Trp Gln Val Asn Asp Glu Asp Val  
260 265 270

Asp Ser Phe Asp Ser Thr Tyr Arg Glu Gln Phe Tyr Glu Glu Gly Met  
275 280 285

Pro His Gly Ile Ala Val Ser Gly Thr Lys Phe Asn Ile Ser Glu Val  
290 295 300

Lys Leu Lys Asp Tyr Ala Tyr Lys Phe Phe Cys His Phe Ile Tyr Asp  
305 310 315 320

Ser Gln Glu Phe Thr Ser Tyr Ile Lys Leu Glu His Pro Val Gln Asn  
325 330 335

Ile Arg Gly Tyr Leu Ile Gly Gly Gly Ile Ser Leu Ile Phe Leu Leu  
340 345 350

Phe Leu Ile Leu Ile Val Tyr Lys Ile Phe Lys Ile Asp Ile Val Leu  
355 360 365

Trp Tyr Arg Ser Ser Cys His Pro Leu Leu Gly Lys Lys Val Ser Asp  
370 375 380

Gly Lys Ile Tyr Asp Ala Tyr Val Leu Tyr Pro Lys Asn Arg Glu Ser  
385 390 395 400

Cys Leu Tyr Ser Ser Asp Ile Phe Ala Leu Lys Ile Leu Pro Glu Val  
405 410 415

Leu Glu Arg Gln Cys Gly Tyr Asn Leu Phe Ile Phe Gly Arg Asn Asp  
420 425 430

Leu Ala Gly Glu Ala Val Ile Asp Val Thr Asp Glu Lys Ile His Gln  
435 440 445

Ser Arg Arg Val Ile Ile Ile Leu Val Pro Glu Pro Ser Cys Tyr Gly  
450 455 460

Ile Leu Glu Asp Ala Ser Glu Lys His Leu Ala Val Tyr Asn Ala Leu  
465 470 475 480

Ile Gln Asp Gly Ile Lys Ile Ile Leu Ile Glu Leu Glu Lys Ile Glu  
485 490 495

Asp Tyr Ala Asn Met Pro Glu Ser Ile Lys Tyr Val Lys Gln Lys Tyr  
500 505 510

Gly Ala Ile Arg Trp Thr Gly Asp Phe Ser Glu Arg Ser His Ser Ala  
515 520 525

Ser Thr Arg Phe Trp Lys Lys Val Arg Tyr His Met Pro Ser Arg Lys  
530 535 540

His Gly Ser Ser Ser Gly Phe His Leu Ser Ser  
545 550 555

<210> 29  
<211> 825  
<212> PRT  
<213> Homo sapiens

<400> 29

Met Gly Trp Leu Cys Ser Gly Leu Leu Phe Pro Val Ser Cys Leu Val  
1 5 10 15

Leu Leu Gln Val Ala Ser Ser Gly Asn Met Lys Val Leu Gln Glu Pro  
20 25 30

Thr Cys Val Ser Asp Tyr Met Ser Ile Ser Thr Cys Glu Trp Lys Met  
35 40 45

Asn Gly Pro Thr Asn Cys Ser Thr Glu Leu Arg Leu Leu Tyr Gln Leu  
50 55 60

Val Phe Leu Leu Ser Glu Ala His Thr Cys Ile Pro Glu Asn Asn Gly  
65 70 75 80

Gly Ala Gly Cys Val Cys His Leu Leu Met Asp Asp Val Val Ser Ala  
85 90 95

Asp Asn Tyr Thr Leu Asp Leu Trp Ala Gly Gln Gln Leu Leu Trp Lys

100	105	110
Gly Ser Phe Lys Pro Ser Glu His Val Lys Pro Arg Ala Pro Gly Asn 115 120 125		
Leu Thr Val His Thr Asn Val Ser Asp Thr Leu Leu Leu Thr Trp Ser 130 135 140		
Asn Pro Tyr Pro Pro Asp Asn Tyr Leu Tyr Asn His Leu Thr Tyr Ala 145 150 155 160		
Val Asn Ile Trp Ser Glu Asn Asp Pro Ala Asp Phe Arg Ile Tyr Asn 165 170 175		
Val Thr Tyr Leu Glu Pro Ser Leu Arg Ile Ala Ala Ser Thr Leu Lys 180 185 190		
Ser Gly Ile Ser Tyr Arg Ala Arg Val Arg Ala Trp Ala Gln Cys Tyr 195 200 205		
Asn Thr Thr Trp Ser Glu Trp Ser Pro Ser Thr Lys Trp His Asn Ser 210 215 220		
Tyr Arg Glu Pro Phe Glu Gln His Leu Leu Leu Gly Val Ser Val Ser 225 230 235 240		
Cys Ile Val Ile Leu Ala Val Cys Leu Leu Cys Tyr Val Ser Ile Thr 245 250 255		
Lys Ile Lys Lys Glu Trp Trp Asp Gln Ile Pro Asn Pro Ala Arg Ser 260 265 270		
Arg Leu Val Ala Ile Ile Ile Gln Asp Ala Gln Gly Ser Gln Trp Glu 275 280 285		
Lys Arg Ser Arg Gly Gln Glu Pro Ala Lys Cys Pro His Trp Lys Asn 290 295 300		
Cys Leu Thr Lys Leu Leu Pro Cys Phe Leu Glu His Asn Met Lys Arg 305 310 315 320		
Asp Glu Asp Pro His Lys Ala Ala Lys Glu Met Pro Phe Gln Gly Ser 325 330 335		

Gly Lys Ser Ala Trp Cys Pro Val Glu Ile Ser Lys Thr Val Leu Trp  
340 345 350

Pro Glu Ser Ile Ser Val Val Arg Cys Val Glu Leu Phe Glu Ala Pro  
355 360 365

Val Glu Cys Glu Glu Glu Glu Glu Val Glu Glu Glu Lys Gly Ser Phe  
370 375 380

Cys Ala Ser Pro Glu Ser Ser Arg Asp Asp Phe Gln Glu Gly Arg Glu  
385 390 395 400

Gly Ile Val Ala Arg Leu Thr Glu Ser Leu Phe Leu Asp Leu Leu Gly  
405 410 415

Glu Glu Asn Gly Gly Phe Cys Gln Gln Asp Met Gly Glu Ser Cys Leu  
420 425 430

Leu Pro Pro Ser Gly Ser Thr Ser Ala His Met Pro Trp Asp Glu Phe  
435 440 445

Pro Ser Ala Gly Pro Lys Glu Ala Pro Pro Trp Gly Lys Glu Gln Pro  
450 455 460

Leu His Leu Glu Pro Ser Pro Pro Ala Ser Pro Thr Gln Ser Pro Asp  
465 470 475 480

Asn Leu Thr Cys Thr Glu Thr Pro Leu Val Ile Ala Gly Asn Pro Ala  
485 490 495

Tyr Arg Ser Phe Ser Asn Ser Leu Ser Gln Ser Pro Cys Pro Arg Glu  
500 505 510

Leu Gly Pro Asp Pro Leu Leu Ala Arg His Leu Glu Glu Val Glu Pro  
515 520 525

Glu Met Pro Cys Val Pro Gln Leu Ser Glu Pro Thr Thr Val Pro Gln  
530 535 540

Pro Glu Pro Glu Thr Trp Glu Gln Ile Leu Arg Arg Asn Val Leu Gln  
545 550 555 560



His Gly Ala Ala Ala Ala Pro Val Ser Ala Pro Thr Ser Gly Tyr Gln  
565 570 575

Glu Phe Val His Ala Val Glu Gln Gly Gly Thr Gln Ala Ser Ala Val  
580 585 590

Val Gly Leu Gly Pro Pro Gly Glu Ala Gly Tyr Lys Ala Phe Ser Ser  
595 600 605

Leu Leu Ala Ser Ser Ala Val Ser Pro Glu Lys Cys Gly Phe Gly Ala  
610 615 620

Ser Ser Gly Glu Glu Gly Tyr Lys Pro Phe Gln Asp Leu Ile Pro Gly  
625 630 635 640

Cys Pro Gly Asp Pro Ala Pro Val Pro Val Pro Leu Phe Thr Phe Gly  
645 650 655

Leu Asp Arg Glu Pro Pro Arg Ser Pro Gln Ser Ser His Leu Pro Ser  
660 665 670

Ser Ser Pro Glu His Leu Gly Leu Glu Pro Gly Glu Lys Val Glu Asp  
675 680 685

Met Pro Lys Pro Pro Leu Pro Gln Glu Gln Ala Thr Asp Pro Leu Val  
690 695 700

Asp Ser Leu Gly Ser Gly Ile Val Tyr Ser Ala Leu Thr Cys His Leu  
705 710 715 720

Cys Gly His Leu Lys Gln Cys His Gly Gln Glu Asp Gly Gly Gln Thr  
725 730 735

Pro Val Met Ala Ser Pro Cys Cys Gly Cys Cys Cys Gly Asp Arg Ser  
740 745 750

Ser Pro Pro Thr Thr Pro Leu Arg Ala Pro Asp Pro Ser Pro Gly Gly  
755 760 765

Val Pro Leu Glu Ala Ser Leu Cys Pro Ala Ser Leu Ala Pro Ser Gly  
770 775 780

Ile Ser Glu Lys Ser Lys Ser Ser Ser Ser Phe His Pro Ala Pro Gly  
785 790 795 800

Asn Ala Gln Ser Ser Ser Gln Thr Pro Lys Ile Val Asn Phe Val Ser  
805 810 815

Val Gly Pro Thr Tyr Met Arg Val Ser  
820 825

<210> 30  
<211> 9  
<212> PRT  
<213> Artificial

<220>  
<223> Peptide

<400> 30

Phe Val Phe Ala Arg Thr Met Pro Ala  
1 5

<210> 31  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 31

Asn Gly Pro Lys Ile Pro Ser Ile Ala Thr  
1 5 10

<210> 32  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 32

Ala Thr Gly Gln Val Cys His Ala Leu  
1 5

<210> 33

<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 33

Arg Lys Val Cys Asn Gly Ile Gly Ile Gly Glu  
1 5 10

<210> 34  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 34

Trp His Asn Ser Tyr Arg Glu Pro Phe  
1 5

<210> 35  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 35

Tyr Arg Glu Pro Phe Glu Gln His Leu Leu  
1 5 10

<210> 36  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 36

Ser Asp Thr Leu Leu Thr Trp Ser  
1 5

<210> 37  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 37

Ile Tyr Asn Val Thr Tyr Leu Glu  
1 5

<210> 38  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 38

Ile Ala Ala Ser Thr Leu Lys Ser Gly Ile Ser  
1 5 10

<210> 39  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 39

Lys Pro Ser Glu His Val Lys Pro Arg  
1 5

<210> 40  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 40

Phe Thr Cys Glu Glu Asp Phe Tyr Phe Pro Trp  
1 5 10

<210> 41  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 41

Ser Val Asp Glu Ile Val Gln Pro Asp  
1 5

<210> 42  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 42

Met Asp Pro Ile Asp Thr Thr Ser Val Pro Val Tyr  
1 5 10

<210> 43  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 43

Ile Asp Ala Ala Tyr Ile Gln Leu Ile Tyr Pro Val  
1 5 10

<210> 44  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

Peptide

<400> 44

Leu Ile Tyr Pro Val Thr Asn Phe Gln Lys His Met  
1 5 10

<210> 45

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 45

Leu Glu Glu Asn Lys Pro Thr Arg Pro Val  
1 5 10

<210> 46

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 46

Asn Lys Pro Thr Arg Pro Val Ile Val Ser  
1 5 10

<210> 47

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 47

Val Ala Glu Lys His Arg Gly Asn Tyr Thr  
1 5 10

<210> 48

<211> 9

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 48

Trp Asn Gly Ser Val Ile Asp Glu Asp  
1 5

<210> 49  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 49

Val Pro Ala Pro Arg Tyr Thr Val Glu Leu  
1 5 10

<210> 50  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 50

Ala Pro Arg Tyr Thr Val Glu Leu Ala  
1 5

<210> 51  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 51

Val Gln Lys Asp Ser Cys Phe Asn Ser Pro Met  
1 5 10

<210> 52

<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 52

Met Leu Pro Val His Lys Leu Tyr  
1 5

<210> 53  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 53

Val Gly Ser Pro Lys Asn Ala Val Pro Pro Val  
1 5 10

<210> 54  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 54

Val Thr Tyr Pro Glu Asn Gly Arg Thr Phe  
1 5 10

<210> 55  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Peptide

<400> 55

Ile His Ser Pro Asn Asp His Val Val Tyr  
1 5 10



<210> 56  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 56

Leu Ile Ser Asn Asn Gly Asn Tyr Thr  
1 5

<210> 57  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 57

Val Trp Trp Thr Ile Asp Gly Lys Lys Pro Asp  
1 5 10

<210> 58  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 58

Trp Thr Ile Asp Gly Lys Lys Pro Asp Asp Ile  
1 5 10

<210> 59  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
Peptide

<400> 59

His Ser Arg Thr Glu Asp Glu Thr Arg Thr Gln  
1 5 10

<210> 60  
<211> 810  
<212> PRT  
<213> Mus sp.

<400> 60

Met Gly Arg Leu Cys Thr Lys Phe Leu Thr Ser Val Gly Cys Leu Ile  
1 5 10 15

Leu Leu Leu Val Thr Gly Ser Gly Ser Ile Lys Val Leu Gly Glu Pro  
20 25 30

Thr Cys Phe Ser Asp Tyr Ile Arg Thr Ser Thr Cys Glu Trp Phe Leu  
35 40 45

Asp Ser Ala Val Asp Cys Ser Ser Gln Leu Cys Leu His Tyr Arg Leu  
50 55 60

Met Phe Phe Glu Phe Ser Glu Asn Leu Thr Cys Ile Pro Arg Asn Ser  
65 70 75 80

Ala Ser Thr Val Cys Val Cys His Met Glu Met Asn Arg Pro Val Gln  
85 90 95

Ser Asp Arg Tyr Gln Met Glu Leu Trp Ala Glu His Arg Gln Leu Trp  
100 105 110

Gln Gly Ser Phe Ser Pro Ser Gly Asn Val Lys Pro Leu Ala Pro Asp  
115 120 125

Asn Leu Thr Leu His Thr Asn Val Ser Asp Glu Trp Leu Leu Thr Trp  
130 135 140

Asn Asn Leu Tyr Pro Ser Asn Asn Leu Leu Tyr Lys Asp Leu Ile Ser  
145 150 155 160

Met Val Asn Ile Ser Arg Glu Asp Asn Pro Ala Glu Phe Ile Val Tyr  
165 170 175

Asn Val Thr Tyr Lys Glu Pro Arg Leu Ser Phe Pro Ile Asn Ile Leu

180	185	190
Met Ser Gly Val Tyr Tyr Thr Ala Arg Val Arg Val Arg Ser Gln Ile 195 200 205		
Leu Thr Gly Thr Trp Ser Glu Trp Ser Pro Ser Ile Thr Trp Tyr Asn 210 215 220		
His Phe Gln Leu Pro Leu Ile Gln Arg Leu Pro Leu Gly Val Thr Ile 225 230 235 240		
Ser Cys Leu Cys Ile Pro Leu Phe Cys Leu Phe Cys Tyr Phe Ser Ile 245 250 255		
Thr Lys Ile Lys Lys Ile Trp Trp Asp Gln Ile Pro Thr Pro Ala Arg 260 265 270		
Ser Pro Leu Val Ala Ile Ile Ile Gln Asp Ala Gln Val Pro Leu Trp 275 280 285		
Asp Lys Gln Thr Arg Ser Gln Glu Ser Thr Lys Tyr Pro His Trp Lys 290 295 300		
Thr Cys Leu Asp Lys Leu Leu Pro Cys Leu Leu Lys His Arg Val Lys 305 310 315 320		
Lys Lys Thr Asp Phe Pro Lys Ala Ala Pro Thr Lys Ser Leu Gln Ser 325 330 335		
Pro Gly Lys Ala Gly Trp Cys Pro Met Glu Val Ser Arg Thr Val Leu 340 345 350		
Trp Pro Glu Asn Val Ser Val Ser Val Val Arg Cys Met Glu Leu Phe 355 360 365		
Glu Ala Pro Val Gln Asn Val Glu Glu Glu Glu Asp Glu Ile Val Lys 370 375 380		
Glu Asp Leu Ser Met Ser Pro Glu Asn Ser Gly Gly Cys Gly Phe Gln 385 390 395 400		
Glu Ser Gln Ala Asp Ile Met Ala Arg Leu Thr Glu Asn Leu Phe Ser 405 410 415		

Asp Leu Leu Glu Ala Glu Asn Gly Gly Leu Gly Gln Ser Ala Leu Ala  
420 425 430

Glu Ser Cys Ser Pro Leu Pro Ser Gly Ser Gly Gln Ala Ser Val Ser  
435 440 445

Trp Ala Cys Leu Pro Met Gly Pro Ser Glu Glu Ala Thr Cys Gln Val  
450 455 460

Thr Glu Gln Pro Ser His Pro Gly Pro Leu Ser Gly Ser Pro Ala Gln  
465 470 475 480

Ser Ala Pro Thr Leu Ala Cys Thr Gln Val Pro Leu Val Leu Ala Asp  
485 490 495

Asn Pro Ala Tyr Arg Ser Phe Ser Asp Cys Cys Ser Pro Ala Pro Asn  
500 505 510

Pro Gly Glu Leu Ala Pro Glu Gln Gln Gln Ala Asp His Leu Glu Glu  
515 520 525

Glu Glu Pro Pro Ser Pro Ala Asp Pro His Ser Ser Gly Pro Pro Met  
530 535 540

Gln Pro Val Glu Ser Trp Glu Gln Ile Leu His Met Ser Val Leu Gln  
545 550 555 560

His Gly Ala Ala Ala Gly Ser Thr Pro Ala Pro Ala Gly Gly Tyr Gln  
565 570 575

Glu Phe Val Gln Ala Val Lys Gln Gly Ala Ala Gln Asp Pro Gly Val  
580 585 590

Pro Gly Val Arg Pro Ser Gly Asp Pro Gly Tyr Lys Ala Phe Ser Ser  
595 600 605

Leu Leu Ser Ser Asn Gly Ile Arg Gly Asp Thr Ala Ala Ala Gly Thr  
610 615 620

Asp Asp Gly His Gly Gly Tyr Lys Pro Phe Gln Asn Pro Val Pro Asn  
625 630 635 640

Gln Ser Pro Ser Ser Val Pro Leu Phe Thr Phe Gly Leu Asp Thr Glu  
645 650 655

Leu Ser Pro Ser Pro Leu Asn Ser Asp Pro Pro Lys Ser Pro Pro Glu  
660 665 670

Cys Leu Gly Leu Glu Leu Gly Leu Lys Gly Gly Asp Trp Val Lys Ala  
675 680 685

Pro Pro Pro Ala Asp Gln Val Pro Lys Pro Phe Gly Asp Asp Leu Gly  
690 695 700

Phe Gly Ile Val Tyr Ser Ser Leu Thr Cys His Leu Cys Gly His Leu  
705 710 715 720

Lys Gln His His Ser Gln Glu Glu Gly Gly Gln Ser Pro Ile Val Ala  
725 730 735

Ser Pro Gly Cys Gly Cys Cys Tyr Asp Asp Arg Ser Pro Ser Leu Gly  
740 745 750

Ser Leu Ser Gly Ala Leu Glu Ser Cys Pro Glu Gly Ile Pro Pro Glu  
755 760 765

Ala Asn Leu Met Ser Ala Pro Lys Thr Pro Ser Asn Leu Ser Gly Glu  
770 775 780

Gly Lys Gly Pro Gly His Ser Pro Val Pro Ser Gln Thr Thr Glu Val  
785 790 795 800

Pro Val Gly Ala Leu Gly Ile Ala Val Ser  
805 810

<210> 61  
<211> 810  
<212> PRT  
<213> Equus sp.

<400> 61

Met Gly Arg Leu Cys Thr Lys Phe Leu Thr Ser Val Gly Cys Leu Ile  
1 5 10 15

Leu Leu Leu Val Thr Gly Ser Gly Ser Ile Lys Val Leu Gly Glu Pro

20										25										30										
Thr	Cys	Phe	Ser	Asp	Tyr	Ile	Arg	Thr	Ser	Thr	Cys	Glu	Trp	Phe	Leu															
		35					40					45																		
Asp	Ser	Ala	Val	Asp	Cys	Ser	Ser	Gln	Leu	Cys	Leu	His	Tyr	Arg	Leu															
	50					55					60																			
Met	Phe	Phe	Glu	Phe	Ser	Glu	Asn	Leu	Ile	Cys	Ile	Pro	Arg	Asn	Ser															
65					70					75					80															
Ala	Ser	Thr	Val	Cys	Val	Cys	His	Met	Glu	Met	Asn	Arg	Pro	Val	Gln															
				85					90					95																
Ser	Asp	Arg	Tyr	Gln	Met	Glu	Leu	Trp	Ala	Glu	His	Arg	Gln	Leu	Trp															
			100					105					110																	
Gln	Gly	Ser	Phe	Ser	Pro	Ser	Gly	Asn	Val	Lys	Pro	Leu	Ala	Pro	Asp															
		115					120					125																		
Asn	Leu	Thr	Leu	His	Thr	Asn	Val	Ser	Asp	Glu	Trp	Leu	Leu	Thr	Trp															
	130					135					140																			
Asn	Asn	Leu	Tyr	Pro	Ser	Asn	Asn	Leu	Leu	Tyr	Lys	Asp	Leu	Ile	Ser															
145					150					155				160																
Met	Val	Asn	Ile	Ser	Arg	Glu	Asp	Asn	Pro	Ala	Glu	Phe	Ile	Val	Tyr															
				165					170					175																
Asn	Val	Thr	Tyr	Lys	Glu	Pro	Arg	Leu	Ser	Phe	Pro	Ile	Asn	Ile	Leu															
			180					185					190																	
Met	Ser	Gly	Val	Tyr	Tyr	Thr	Ala	Arg	Val	Arg	Val	Arg	Ser	Gln	Ile															
		195					200					205																		
Leu	Thr	Gly	Thr	Trp	Ser	Glu	Trp	Ser	Pro	Ser	Ile	Thr	Trp	Tyr	Asn															
	210					215					220																			
His	Phe	Gln	Leu	Pro	Leu	Ile	Gln	Arg	Leu	Pro	Leu	Gly	Val	Thr	Ile															
225					230					235				240																
Ser	Cys	Leu	Cys	Ile	Pro	Leu	Phe	Cys	Leu	Phe	Cys	Tyr	Phe	Ser	Ile															
				245					250					255																

Thr Lys Ile Lys Lys Ile Trp Trp Asp Gln Ile Pro Thr Pro Ala Arg  
260 265 270

Ser Pro Leu Val Ala Ile Ile Ile Gln Asp Ala Gln Val Pro Leu Trp  
275 280 285

Asp Lys Gln Thr Arg Ser Gln Glu Ser Thr Lys Tyr Pro His Trp Lys  
290 295 300

Thr Cys Leu Asp Lys Leu Leu Pro Cys Leu Leu Lys His Arg Val Lys  
305 310 315 320

Lys Lys Thr Asp Phe Pro Lys Ala Ala Pro Thr Lys Ser Pro Gln Ser  
325 330 335

Pro Gly Lys Ala Gly Trp Cys Pro Met Glu Val Ser Arg Thr Val Leu  
340 345 350

Trp Pro Glu Asn Val Ser Val Ser Val Val Arg Cys Met Glu Leu Phe  
355 360 365

Glu Ala Pro Val Gln Asn Val Glu Glu Glu Glu Asp Glu Ile Val Lys  
370 375 380

Glu Asp Leu Ser Met Ser Pro Glu Asn Ser Gly Gly Cys Gly Phe Gln  
385 390 395 400

Glu Ser Gln Ala Asp Ile Met Ala Arg Leu Thr Glu Asn Leu Phe Ser  
405 410 415

Asp Leu Leu Glu Ala Glu Asn Gly Gly Leu Gly Gln Ser Ala Leu Ala  
420 425 430

Glu Ser Cys Ser Pro Leu Pro Ser Gly Ser Gly Gln Ala Ser Val Ser  
435 440 445

Trp Ala Cys Leu Pro Met Gly Pro Ser Glu Glu Ala Thr Cys Gln Val  
450 455 460

Thr Glu Gln Pro Ser His Pro Gly Pro Leu Ser Gly Ser Pro Ala Gln  
465 470 475 480

Ser Ala Pro Thr Leu Ala Cys Thr Gln Val Pro Leu Val Leu Ala Asp  
485 490 495

Asn Pro Ala Tyr Arg Ser Phe Ser Asp Cys Cys Ser Pro Ala Pro Asn  
500 505 510

Pro Gly Glu Leu Ala Pro Glu Gln Gln Gln Ala Asp His Leu Glu Glu  
515 520 525

Glu Glu Pro Pro Ser Pro Ala Asp Pro His Ser Ser Gly Pro Pro Met  
530 535 540

Gln Pro Val Glu Ser Trp Glu Gln Ile Leu His Met Ser Val Leu Gln  
545 550 555 560

His Gly Ala Ala Ala Gly Ser Thr Pro Ala Pro Ala Gly Gly Tyr Gln  
565 570 575

Glu Phe Val Gln Ala Val Lys Gln Gly Ala Ala Gln Asp Pro Gly Val  
580 585 590

Pro Gly Val Arg Pro Ser Gly Asp Pro Gly Tyr Lys Ala Phe Ser Ser  
595 600 605

Leu Leu Ser Ser Asn Gly Ile Arg Gly Asp Thr Ala Ala Ala Gly Thr  
610 615 620

Asp Asp Gly His Gly Gly Tyr Lys Pro Phe Gln Asn Pro Val Pro Asn  
625 630 635 640

Gln Ser Pro Ser Ser Val Pro Leu Phe Thr Phe Gly Leu Asp Thr Glu  
645 650 655

Leu Ser Pro Ser Pro Leu Asn Ser Asp Pro Pro Lys Ser Pro Pro Glu  
660 665 670

Cys Leu Gly Leu Glu Leu Gly Leu Lys Gly Gly Asp Trp Val Lys Ala  
675 680 685

Pro Pro Pro Ala Asp Gln Val Pro Lys Pro Phe Gly Asp Asp Leu Gly  
690 695 700



Phe Gly Ile Val Tyr Ser Ser Leu Thr Cys His Leu Cys Gly His Leu  
705 710 715 720

Lys Gln His His Ser Gln Glu Glu Gly Gly Gln Ser Pro Ile Val Ala  
725 730 735

Ser Pro Gly Cys Gly Cys Cys Tyr Asp Asp Arg Ser Pro Ser Leu Gly  
740 745 750

Ser Leu Ser Gly Ala Leu Glu Ser Cys Pro Glu Gly Ile Pro Pro Glu  
755 760 765

Ala Asn Leu Met Ser Ala Pro Lys Thr Pro Ser Asn Leu Ser Gly Glu  
770 775 780

Gly Lys Gly Pro Gly His Ser Pro Val Pro Ser Gln Thr Thr Glu Val  
785 790 795 800

Pro Val Gly Ala Leu Gly Ile Ala Val Ser  
805 810

<210> 62

<211> 1356

<212> PRT

<213> Homo sapiens

<400> 62

Met Gln Ser Lys Val Leu Leu Ala Val Ala Leu Trp Leu Cys Val Glu  
1 5 10 15

Thr Arg Ala Ala Ser Val Gly Leu Pro Ser Val Ser Leu Asp Leu Pro  
20 25 30

Arg Leu Ser Ile Gln Lys Asp Ile Leu Thr Ile Lys Ala Asn Thr Thr  
35 40 45

Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro  
50 55 60

Asn Asn Gln Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser  
65 70 75 80

Asp Gly Leu Phe Cys Lys Thr Leu Thr Ile Pro Lys Val Ile Gly Asn  
85 90 95

Asp Thr Gly Ala Tyr Lys Cys Phe Tyr Arg Glu Thr Asp Leu Ala Ser  
100 105 110

Val Ile Tyr Val Tyr Val Gln Asp Tyr Arg Ser Pro Phe Ile Ala Ser  
115 120 125

Val Ser Asp Gln His Gly Val Val Tyr Ile Thr Glu Asn Lys Asn Lys  
130 135 140

Thr Val Val Ile Pro Cys Leu Gly Ser Ile Ser Asn Leu Asn Val Ser  
145 150 155 160

Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg  
165 170 175

Ile Ser Trp Asp Ser Lys Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile  
180 185 190

Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Ser  
195 200 205

Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg Ile Tyr  
210 215 220

Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu  
225 230 235 240

Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile  
245 250 255

Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu  
260 265 270

Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe  
275 280 285

Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu  
290 295 300

Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr  
305 310 315 320

Phe Val Arg Val His Glu Lys Pro Phe Val Ala Phe Gly Ser Gly Met  
325 330 335

Glu Ser Leu Val Glu Ala Thr Val Gly Glu Arg Val Arg Ile Pro Ala  
340 345 350

Lys Tyr Leu Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr Lys Asn Gly  
355 360 365

Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly His Val Leu Thr  
370 375 380

Ile Met Glu Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu  
385 390 395 400

Thr Asn Pro Ile Ser Lys Glu Lys Gln Ser His Val Val Ser Leu Val  
405 410 415

Val Tyr Val Pro Pro Gln Ile Gly Glu Lys Ser Leu Ile Ser Pro Val  
420 425 430

Asp Ser Tyr Gln Tyr Gly Thr Thr Gln Thr Leu Thr Cys Thr Val Tyr  
435 440 445

Ala Ile Pro Pro Pro His His Ile His Trp Tyr Trp Gln Leu Glu Glu  
450 455 460

Glu Cys Ala Asn Glu Pro Ser Gln Ala Val Ser Val Thr Asn Pro Tyr  
465 470 475 480

Pro Cys Glu Glu Trp Arg Ser Val Glu Asp Phe Gln Gly Gly Asn Lys  
485 490 495

Ile Glu Val Asn Lys Asn Gln Phe Ala Leu Ile Glu Gly Lys Asn Lys  
500 505 510

Thr Val Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr  
515 520 525

Lys Cys Glu Ala Val Asn Lys Val Gly Arg Gly Glu Arg Val Ile Ser  
530 535 540

Phe His Val Thr Arg Gly Pro Glu Ile Thr Leu Gln Pro Asp Met Gln  
545 550 555 560

Pro Thr Glu Gln Glu Ser Val Ser Leu Trp Cys Thr Ala Asp Arg Ser  
565 570 575

Thr Phe Glu Asn Leu Thr Trp Tyr Lys Leu Gly Pro Gln Pro Leu Pro  
580 585 590

Ile His Val Gly Glu Leu Pro Thr Pro Val Cys Lys Asn Leu Asp Thr  
595 600 605

Leu Trp Lys Leu Asn Ala Thr Met Phe Ser Asn Ser Thr Asn Asp Ile  
610 615 620

Leu Ile Met Glu Leu Lys Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr  
625 630 635 640

Val Cys Leu Ala Gln Asp Arg Lys Thr Lys Lys Arg His Cys Val Val  
645 650 655

Arg Gln Leu Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn  
660 665 670

Leu Glu Asn Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys  
675 680 685

Thr Ala Ser Gly Asn Pro Pro Pro Gln Ile Met Trp Phe Lys Asp Asn  
690 695 700

Glu Thr Leu Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg  
705 710 715 720

Asn Leu Thr Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr  
725 730 735

Cys Gln Ala Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe  
740 745 750

Ile Ile Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu Ile Ile Ile Leu  
755 760 765

Val Gly Thr Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile

770	775	780
Ile Leu Arg Thr Val Lys Arg Ala Asn Gly Gly Glu Leu Lys Thr Gly 785                                790                                795                                800		
Tyr Leu Ser Ile Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu His 805                                810                                815		
Cys Glu Arg Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp 820                                825                                830		
Arg Leu Lys Leu Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val 835                                840                                845		
Ile Glu Ala Asp Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Arg Thr 850                                855                                860		
Val Ala Val Lys Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg 865                                870                                875                                880		
Ala Leu Met Ser Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu 885                                890                                895		
Asn Val Val Asn Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu 900                                905                                910		
Met Val Ile Val Glu Phe Cys Lys Phe Gly Asn Leu Ser Thr Tyr Leu 915                                920                                925		
Arg Ser Lys Arg Asn Glu Phe Val Pro Tyr Lys Thr Lys Gly Ala Arg 930                                935                                940		
Phe Arg Gln Gly Lys Asp Tyr Val Gly Ala Ile Pro Val Asp Leu Lys 945                                950                                955                                960		
Arg Arg Leu Asp Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly 965                                970                                975		
Phe Val Glu Glu Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Pro 980                                985                                990		
Glu Asp Leu Tyr Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr 995                                1000                                1005		

Ser	Phe	Gln	Val	Ala	Lys	Gly	Met	Glu	Phe	Leu	Ala	Ser	Arg	Lys
1010						1015					1020			
Cys	Ile	His	Arg	Asp	Leu	Ala	Ala	Arg	Asn	Ile	Leu	Leu	Ser	Glu
1025						1030					1035			
Lys	Asn	Val	Val	Lys	Ile	Cys	Asp	Phe	Gly	Leu	Ala	Arg	Asp	Ile
1040						1045					1050			
Tyr	Lys	Asp	Pro	Asp	Tyr	Val	Arg	Lys	Gly	Asp	Ala	Arg	Leu	Pro
1055						1060					1065			
Leu	Lys	Trp	Met	Ala	Pro	Glu	Thr	Ile	Phe	Asp	Arg	Val	Tyr	Thr
1070						1075					1080			
Ile	Gln	Ser	Asp	Val	Trp	Ser	Phe	Gly	Val	Leu	Leu	Trp	Glu	Ile
1085						1090					1095			
Phe	Ser	Leu	Gly	Ala	Ser	Pro	Tyr	Pro	Gly	Val	Lys	Ile	Asp	Glu
1100						1105					1110			
Glu	Phe	Cys	Arg	Arg	Leu	Lys	Glu	Gly	Thr	Arg	Met	Arg	Ala	Pro
1115						1120					1125			
Asp	Tyr	Thr	Thr	Pro	Glu	Met	Tyr	Gln	Thr	Met	Leu	Asp	Cys	Trp
1130						1135					1140			
His	Gly	Glu	Pro	Ser	Gln	Arg	Pro	Thr	Phe	Ser	Glu	Leu	Val	Glu
1145						1150					1155			
His	Leu	Gly	Asn	Leu	Leu	Gln	Ala	Asn	Ala	Gln	Gln	Asp	Gly	Lys
1160						1165					1170			
Asp	Tyr	Ile	Val	Leu	Pro	Ile	Ser	Glu	Thr	Leu	Ser	Met	Glu	Glu
1175						1180					1185			
Asp	Ser	Gly	Leu	Ser	Leu	Pro	Thr	Ser	Pro	Val	Ser	Cys	Met	Glu
1190						1195					1200			
Glu	Glu	Glu	Val	Cys	Asp	Pro	Lys	Phe	His	Tyr	Asp	Asn	Thr	Ala
1205						1210					1215			

Gly Ile Ser Gln Tyr Leu Gln Asn Ser Lys Arg Lys Ser Arg Pro  
1220 1225 1230

Val Ser Val Lys Thr Phe Glu Asp Ile Pro Leu Glu Glu Pro Glu  
1235 1240 1245

Val Lys Val Ile Pro Asp Asp Asn Gln Thr Asp Ser Gly Met Val  
1250 1255 1260

Leu Ala Ser Glu Glu Leu Lys Thr Leu Glu Asp Arg Thr Lys Leu  
1265 1270 1275

Ser Pro Ser Phe Gly Gly Met Val Pro Ser Lys Ser Arg Glu Ser  
1280 1285 1290

Val Ala Ser Glu Gly Ser Asn Gln Thr Ser Gly Tyr Gln Ser Gly  
1295 1300 1305

Tyr His Ser Asp Asp Thr Asp Thr Thr Val Tyr Ser Ser Glu Glu  
1310 1315 1320

Ala Glu Leu Leu Lys Leu Ile Glu Ile Gly Val Gln Thr Gly Ser  
1325 1330 1335

Thr Ala Gln Ile Leu Gln Pro Asp Ser Gly Thr Thr Leu Ser Ser  
1340 1345 1350

Pro Pro Val  
1355

<210> 63  
<211> 1367  
<212> PRT  
<213> Mus sp.

<400> 63

Met Glu Ser Lys Ala Leu Leu Ala Val Ala Leu Trp Phe Cys Val Glu  
1 5 10 15

Thr Arg Ala Ala Ser Val Gly Leu Pro Gly Asp Phe Leu His Pro Pro  
20 25 30

Lys Leu Ser Thr Gln Lys Asp Ile Leu Thr Ile Leu Ala Asn Thr Thr

35

40

45

Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro  
 50 55 60

Asn Ala Gln Arg Asp Ser Glu Glu Arg Val Leu Val Thr Glu Cys Gly  
 65 70 75 80

Gly Gly Asp Ser Ile Phe Cys Lys Thr Leu Thr Ile Pro Arg Val Val  
 85 90 95

Gly Asn Asp Thr Gly Ala Tyr Lys Cys Ser Tyr Arg Asp Val Asp Ile  
 100 105 110

Ala Ser Thr Val Tyr Val Tyr Val Arg Asp Tyr Arg Ser Pro Phe Ile  
 115 120 125

Ala Ser Val Ser Asp Gln His Gly Ile Val Tyr Ile Thr Glu Asn Lys  
 130 135 140

Asn Lys Thr Val Val Ile Pro Cys Arg Gly Ser Ile Ser Asn Leu Asn  
 145 150 155 160

Val Ser Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly  
 165 170 175

Asn Arg Ile Ser Trp Asp Ser Glu Ile Gly Phe Thr Leu Pro Ser Tyr  
 180 185 190

Met Ile Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp  
 195 200 205

Glu Thr Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg  
 210 215 220

Ile Tyr Asp Val Ile Leu Ser Pro Pro His Glu Ile Glu Leu Ser Ala  
 225 230 235 240

Gly Glu Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val  
 245 250 255

Gly Leu Asp Phe Thr Trp His Ser Pro Pro Ser Lys Ser His His Lys  
 260 265 270



Lys Ile Val Asn Arg Asp Val Lys Pro Phe Pro Gly Thr Val Ala Lys  
275 280 285

Met Phe Leu Ser Thr Leu Thr Ile Glu Ser Val Thr Lys Ser Asp Gln  
290 295 300

Gly Glu Tyr Thr Cys Val Ala Ser Ser Gly Arg Met Ile Lys Arg Asn  
305 310 315 320

Arg Thr Phe Val Arg Val His Thr Lys Pro Phe Ile Ala Phe Gly Ser  
325 330 335

Gly Met Lys Ser Leu Val Glu Ala Thr Val Gly Ser Gln Val Arg Ile  
340 345 350

Pro Val Lys Tyr Leu Ser Tyr Pro Ala Pro Asp Ile Lys Trp Tyr Arg  
355 360 365

Asn Gly Arg Pro Ile Glu Ser Asn Tyr Thr Met Ile Val Gly Asp Glu  
370 375 380

Leu Thr Ile Met Glu Val Thr Glu Arg Asp Ala Gly Asn Tyr Thr Val  
385 390 395 400

Ile Leu Thr Asn Pro Ile Ser Met Glu Lys Gln Ser His Met Val Ser  
405 410 415

Leu Val Val Asn Val Pro Pro Gln Ile Gly Glu Lys Ala Leu Ile Ser  
420 425 430

Pro Met Asp Ser Tyr Gln Tyr Gly Thr Met Gln Thr Leu Thr Cys Thr  
435 440 445

Val Tyr Ala Asn Pro Pro Leu His His Ile Gln Trp Tyr Trp Gln Leu  
450 455 460

Glu Glu Ala Cys Ser Tyr Arg Pro Gly Gln Thr Ser Pro Tyr Ala Cys  
465 470 475 480

Lys Glu Trp Arg His Val Glu Asp Phe Gln Gly Gly Asn Lys Ile Glu  
485 490 495

Val Thr Lys Asn Gln Tyr Ala Leu Ile Glu Gly Lys Asn Lys Thr Val  
500 505 510

Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr Lys Cys  
515 520 525

Glu Ala Ile Asn Lys Ala Gly Arg Gly Glu Arg Val Ile Ser Phe His  
530 535 540

Val Ile Arg Gly Pro Glu Ile Thr Val Gln Pro Ala Ala Gln Pro Thr  
545 550 555 560

Glu Gln Glu Ser Val Ser Leu Leu Cys Thr Ala Asp Arg Asn Thr Phe  
565 570 575

Glu Asn Leu Thr Trp Tyr Lys Leu Gly Ser Gln Ala Thr Ser Val His  
580 585 590

Met Gly Glu Ser Leu Thr Pro Val Cys Lys Asn Leu Asp Ala Leu Trp  
595 600 605

Lys Leu Asn Gly Thr Met Phe Ser Asn Ser Thr Asn Asp Ile Leu Ile  
610 615 620

Val Ala Phe Gln Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr Val Cys  
625 630 635 640

Ser Ala Gln Asp Lys Lys Thr Lys Lys Arg His Cys Leu Val Lys Gln  
645 650 655

Leu Ile Ile Leu Glu Arg Met Ala Pro Met Ile Thr Gly Asn Leu Glu  
660 665 670

Asn Gln Thr Thr Thr Ile Gly Glu Thr Ile Glu Val Thr Cys Pro Ala  
675 680 685

Ser Gly Asn Pro Thr Pro His Ile Thr Trp Phe Lys Asp Asn Glu Thr  
690 695 700

Leu Val Glu Asp Ser Gly Ile Val Leu Arg Asp Gly Asn Arg Asn Leu  
705 710 715 720

Thr Ile Arg Arg Val Arg Lys Glu Asp Gly Gly Leu Tyr Thr Cys Gln  
725 730 735

Ala Cys Asn Val Leu Gly Cys Ala Arg Ala Glu Thr Leu Phe Ile Ile  
740 745 750

Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu Val Ile Ile Leu Val Gly  
755 760 765

Thr Ala Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile Leu Val  
770 775 780

Arg Thr Val Lys Arg Ala Asn Glu Gly Glu Leu Lys Thr Gly Tyr Leu  
785 790 795 800

Ser Ile Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu Arg Cys Glu  
805 810 815

Arg Leu Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp Arg Leu  
820 825 830

Lys Leu Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val Ile Glu  
835 840 845

Ala Asp Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Lys Thr Val Ala  
850 855 860

Val Lys Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg Ala Leu  
865 870 875 880

Met Ser Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu Asn Val  
885 890 895

Val Asn Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val  
900 905 910

Ile Val Glu Phe Ser Lys Phe Gly Asn Leu Ser Thr Tyr Leu Arg Gly  
915 920 925

Lys Arg Asn Glu Phe Val Pro Tyr Lys Ser Lys Gly Ala Arg Phe Arg  
930 935 940

Gln Gly Lys Asp Tyr Val Gly Glu Leu Ser Val Asp Leu Lys Arg Arg

945	950	955	960
Leu Asp Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val			
	965	970	975
Glu Glu Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Ser Glu Glu			
	980	985	990
Leu Tyr Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe			
	995	1000	1005
Gln Val Ala Lys Gly Met Glu Phe Leu Ala Ser Arg Lys Cys Ile			
	1010	1015	1020
His Arg Asp Leu Ala Ala Arg Asn Ile Leu Leu Ser Glu Lys Asn			
	1025	1030	1035
Val Val Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Tyr Lys			
	1040	1045	1050
Asp Pro Asp Tyr Val Arg Lys Gly Asp Ala Arg Leu Pro Leu Lys			
	1055	1060	1065
Trp Met Ala Pro Glu Thr Ile Phe Asp Arg Val Tyr Thr Ile Gln			
	1070	1075	1080
Ser Asp Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Phe Ser			
	1085	1090	1095
Leu Gly Ala Ser Pro Tyr Pro Gly Val Lys Ile Asp Glu Glu Phe			
	1100	1105	1110
Cys Arg Arg Leu Lys Glu Gly Thr Arg Met Arg Ala Pro Asp Tyr			
	1115	1120	1125
Thr Thr Pro Glu Met Tyr Gln Thr Met Leu Asp Cys Trp His Glu			
	1130	1135	1140
Asp Pro Asn Gln Arg Pro Ser Phe Ser Glu Leu Val Glu His Leu			
	1145	1150	1155
Gly Asn Leu Leu Gln Ala Asn Ala Gln Gln Asp Gly Lys Asp Tyr			
	1160	1165	1170

Ile Val Leu Pro Met Ser Glu Thr Leu Ser Met Glu Glu Asp Ser  
1175 1180 1185

Gly Leu Ser Leu Pro Thr Ser Pro Val Ser Cys Met Glu Glu Glu  
1190 1195 1200

Glu Val Cys Asp Pro Lys Phe His Tyr Asp Asn Thr Ala Gly Ile  
1205 1210 1215

Ser His Tyr Leu Gln Asn Ser Lys Arg Lys Ser Arg Pro Val Ser  
1220 1225 1230

Val Lys Thr Phe Glu Asp Ile Pro Leu Glu Glu Pro Glu Val Lys  
1235 1240 1245

Val Ile Pro Asp Asp Ser Gln Thr Asp Ser Gly Met Val Leu Ala  
1250 1255 1260

Ser Glu Glu Leu Lys Thr Leu Glu Asp Arg Asn Lys Leu Ser Pro  
1265 1270 1275

Ser Phe Gly Gly Met Met Pro Ser Lys Ser Arg Glu Ser Val Ala  
1280 1285 1290

Ser Glu Gly Ser Asn Gln Thr Ser Gly Tyr Gln Ser Gly Tyr His  
1295 1300 1305

Ser Asp Asp Thr Asp Thr Thr Val Tyr Ser Ser Asp Glu Ala Gly  
1310 1315 1320

Leu Leu Lys Met Val Asp Ala Ala Val His Ala Asp Ser Gly Thr  
1325 1330 1335

Thr Leu Gln Leu Thr Ser Cys Leu Asn Gly Ser Gly Pro Val Pro  
1340 1345 1350

Ala Pro Pro Pro Thr Pro Gly Asn His Glu Arg Gly Ala Ala  
1355 1360 1365

<210> 64  
<211> 1343  
<212> PRT

<213> Rattus sp.

<400> 64

Met Glu Ser Arg Ala Leu Leu Ala Val Ala Leu Trp Phe Cys Val Glu  
1 5 10 15

Thr Arg Ala Ala Ser Val Gly Leu Pro Gly Asp Ser Leu His Pro Pro  
20 25 30

Lys Leu Ser Thr Gln Lys Asp Ile Leu Thr Ile Leu Ala Asn Thr Thr  
35 40 45

Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro  
50 55 60

Asn Thr Pro Arg Asp Ser Glu Glu Arg Val Leu Val Thr Glu Cys Gly  
65 70 75 80

Asp Ser Ile Phe Cys Lys Thr Leu Thr Val Pro Arg Val Val Gly Asn  
85 90 95

Asp Thr Gly Ala Tyr Lys Cys Phe Tyr Arg Asp Thr Asp Val Ser Ser  
100 105 110

Ile Val Tyr Val Tyr Val Gln Asp His Arg Ser Pro Phe Ile Ala Ser  
115 120 125

Val Ser Asp Glu His Gly Ile Val Tyr Ile Thr Glu Asn Lys Asn Lys  
130 135 140

Thr Val Val Ile Pro Cys Arg Gly Ser Ile Ser Asn Leu Asn Val Ser  
145 150 155 160

Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg  
165 170 175

Ile Ser Trp Asp Ser Glu Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile  
180 185 190

Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Thr  
195 200 205

Tyr Gln Ser Ile Met Tyr Ile Val Leu Val Val Gly Tyr Arg Ile Tyr

210	215	220
Asp Val Val Leu Ser Pro Pro His Glu Ile Glu Leu Ser Ala Gly Glu 225 230 235 240		
Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Leu 245 250 255		
Asp Phe Ser Trp Gln Phe Pro Ser Ser Lys His Gln His Lys Lys Ile 260 265 270		
Val Asn Arg Asp Val Lys Ser Leu Pro Gly Thr Val Ala Lys Met Phe 275 280 285		
Leu Ser Thr Leu Thr Ile Asp Ser Val Thr Lys Ser Asp Gln Gly Glu 290 295 300		
Tyr Thr Cys Thr Ala Tyr Ser Gly Leu Met Thr Lys Lys Asn Lys Thr 305 310 315 320		
Phe Val Arg Val His Thr Lys Pro Phe Ile Ala Phe Gly Ser Gly Met 325 330 335		
Lys Ser Leu Val Glu Ala Thr Val Gly Ser Gln Val Arg Ile Pro Val 340 345 350		
Lys Tyr Leu Ser Tyr Pro Ala Pro Asp Ile Lys Trp Tyr Arg Asn Gly 355 360 365		
Arg Pro Ile Glu Ser Asn Tyr Thr Met Ile Val Gly Asp Glu Leu Thr 370 375 380		
Ile Met Glu Val Ser Glu Arg Asp Ala Gly Asn Tyr Thr Val Ile Leu 385 390 395 400		
Thr Asn Pro Ile Ser Met Glu Lys Gln Ser His Met Val Ser Leu Val 405 410 415		
Val Asn Val Pro Pro Gln Ile Gly Glu Lys Ala Leu Ile Ser Pro Met 420 425 430		
Asp Ser Tyr Gln Tyr Gly Thr Met Gln Thr Leu Thr Cys Thr Val Tyr 435 440 445		

Ala Asn Pro Pro Leu His His Ile Gln Trp Tyr Trp Gln Leu Glu Glu  
450 455 460

Ala Cys Ser Tyr Arg Pro Ser Gln Thr Asn Pro Tyr Thr Cys Lys Glu  
465 470 475 480

Trp Arg His Val Lys Asp Phe Gln Gly Gly Asn Lys Ile Glu Val Thr  
485 490 495

Lys Asn Gln Tyr Ala Leu Ile Glu Gly Lys Asn Lys Thr Val Ser Thr  
500 505 510

Leu Val Ile Gln Ala Ala Tyr Val Ser Ala Leu Tyr Lys Cys Glu Ala  
515 520 525

Ile Asn Lys Ala Gly Arg Gly Glu Arg Val Ile Ser Phe His Val Ile  
530 535 540

Arg Gly Pro Glu Ile Thr Val Gln Pro Ala Thr Gln Pro Thr Glu Arg  
545 550 555 560

Glu Ser Met Ser Leu Leu Cys Thr Ala Asp Arg Asn Thr Phe Glu Asn  
565 570 575

Leu Thr Trp Tyr Lys Leu Gly Ser Gln Ala Thr Ser Val His Met Gly  
580 585 590

Glu Ser Leu Thr Pro Val Cys Lys Asn Leu Asp Ala Leu Trp Lys Leu  
595 600 605

Asn Gly Thr Val Phe Ser Asn Ser Thr Asn Asp Ile Leu Ile Val Ala  
610 615 620

Phe Gln Asn Ala Ser Leu Gln Asp Gln Gly Asn Tyr Val Cys Ser Ala  
625 630 635 640

Gln Asp Lys Lys Thr Lys Lys Arg His Cys Leu Val Lys Gln Leu Val  
645 650 655

Ile Leu Glu Arg Met Ala Pro Met Ile Thr Gly Asn Leu Glu Asn Gln  
660 665 670



Thr Thr Thr Ile Gly Glu Thr Ile Glu Val Val Cys Pro Thr Ser Gly  
675 680 685

Asn Pro Thr Pro Leu Ile Thr Trp Phe Lys Asp Asn Glu Thr Leu Val  
690 695 700

Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg Asn Leu Thr Ile  
705 710 715 720

Arg Arg Val Arg Lys Glu Asp Gly Gly Leu Tyr Thr Cys Gln Ala Cys  
725 730 735

Asn Val Leu Gly Cys Ala Arg Ala Glu Thr Leu Phe Ile Ile Glu Gly  
740 745 750

Val Gln Glu Lys Thr Asn Leu Glu Val Ile Ile Leu Val Gly Thr Ala  
755 760 765

Val Ile Ala Met Phe Phe Trp Leu Leu Leu Val Ile Leu Val Arg Thr  
770 775 780

Val Lys Arg Ala Asn Glu Gly Glu Leu Lys Thr Gly Tyr Leu Ser Ile  
785 790 795 800

Val Met Asp Pro Asp Glu Leu Pro Leu Asp Glu Arg Cys Glu Arg Leu  
805 810 815

Pro Tyr Asp Ala Ser Lys Trp Glu Phe Pro Arg Asp Arg Leu Lys Leu  
820 825 830

Gly Lys Pro Leu Gly Arg Gly Ala Phe Gly Gln Val Ile Glu Ala Asp  
835 840 845

Ala Phe Gly Ile Asp Lys Thr Ala Thr Cys Lys Thr Val Ala Val Lys  
850 855 860

Met Leu Lys Glu Gly Ala Thr His Ser Glu His Arg Ala Leu Met Ser  
865 870 875 880

Glu Leu Lys Ile Leu Ile His Ile Gly His His Leu Asn Val Val Asn  
885 890 895

Leu Leu Gly Ala Cys Thr Lys Pro Gly Gly Pro Leu Met Val Ile Val  
900 905 910

Glu Phe Cys Lys Phe Gly Asn Leu Ser Thr Tyr Leu Arg Gly Lys Arg  
915 920 925

Asn Glu Phe Val Pro Tyr Lys Ser Lys Gly Ala Arg Phe Arg Ser Gly  
930 935 940

Lys Asp Tyr Val Gly Glu Leu Ser Val Asp Leu Lys Arg Arg Leu Asp  
945 950 955 960

Ser Ile Thr Ser Ser Gln Ser Ser Ala Ser Ser Gly Phe Val Glu Glu  
965 970 975

Lys Ser Leu Ser Asp Val Glu Glu Glu Glu Ala Ser Glu Glu Leu Tyr  
980 985 990

Lys Asp Phe Leu Thr Leu Glu His Leu Ile Cys Tyr Ser Phe Gln Val  
995 1000 1005

Ala Lys Gly Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg  
1010 1015 1020

Asp Leu Ala Ala Arg Asn Ile Leu Leu Ser Glu Lys Asn Val Val  
1025 1030 1035

Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Tyr Lys Asp Pro  
1040 1045 1050

Asp Tyr Val Arg Lys Gly Asp Pro Arg Leu Pro Leu Lys Trp Met  
1055 1060 1065

Ala Pro Glu Thr Ile Phe Asp Arg Ile Tyr Thr Ile Gln Ser Gly  
1070 1075 1080

Val Trp Ser Phe Gly Val Leu Leu Trp Glu Ile Phe Ser Leu Gly  
1085 1090 1095

Ala Ser Pro Tyr Pro Gly Val Lys Ile Asp Glu Lys Phe Cys Arg  
1100 1105 1110

Arg Leu Lys Glu Gly Thr Arg Met Arg Ala Pro Asp Tyr Thr Thr

1115		1120		1125
Pro Glu Met Tyr Gln Thr Met	Leu Asp Cys Trp His	Glu Asp Pro		
1130	1135	1140		
Asn Gln Arg Pro Ala Phe Ser	Glu Leu Val Glu His	Leu Gly Asn		
1145	1150	1155		
Leu Leu Gln Ala Asn Ala Gln	Gln Asp Gly Lys Asp	Tyr Ile Val		
1160	1165	1170		
Leu Pro Met Ser Glu Thr Leu	Ser Met Glu Glu Asp	Ser Gly Leu		
1175	1180	1185		
Ser Leu Pro Thr Ser Pro Val	Ser Cys Met Glu Glu	Glu Glu Val		
1190	1195	1200		
Cys Asp Pro Lys Phe His Tyr	Asp Asn Thr Ala Gly	Ile Ser His		
1205	1210	1215		
Tyr Leu Gln Asn Ser Lys Arg	Lys Ser Arg Pro Val	Ser Val Lys		
1220	1225	1230		
Thr Phe Glu Asp Ile Pro Leu	Glu Glu Pro Glu Val	Lys Val Ile		
1235	1240	1245		
Pro Asp Asp Ser Gln Thr Asp	Ser Gly Met Val Leu	Ala Ser Glu		
1250	1255	1260		
Glu Leu Lys Thr Leu Glu Asp	Arg Asn Lys Leu Ser	Pro Ser Phe		
1265	1270	1275		
Gly Gly Met Met Pro Ser Lys	Ser Arg Glu Ser Val	Ala Ser Glu		
1280	1285	1290		
Gly Ser Asn Gln Thr Ser Gly	Tyr Gln Ser Gly Tyr	His Ser Asp		
1295	1300	1305		
Asp Thr Asp Thr Thr Val Tyr	Ser Ser Asp Glu Ala	Gly Leu Leu		
1310	1315	1320		
Lys Leu Val Asp Val Ala Gly	His Val Asp Ser Gly	Thr Thr Leu		
1325	1330	1335		

Arg Ser Ser Pro Val  
1340

<210> 65  
<211> 1348  
<212> PRT  
<213> Callipepla sp.

<400> 65

Met Glu Leu Gly Pro Leu Arg Val Leu Thr Val Leu Leu Cys Leu Ala  
1 5 10 15

Pro Val Phe Ala Gly Leu Phe Ile Ser Met Asp Gln Pro Thr Leu Ser  
20 25 30

Ile Gln Lys Ser Val Leu Thr Ile Thr Thr Asn Asp Thr Leu Asn Ile  
35 40 45

Thr Cys Ser Gly Gln Arg Ala Val Tyr Trp Ser Trp Pro Asn Asn Gln  
50 55 60

Ser Ser Val Glu Lys Arg Leu Ala Val Thr Gly Cys Ser Glu Gly Pro  
65 70 75 80

Phe Cys Lys Thr Leu Thr Leu Leu Arg Val Ile Gly Asn Asp Thr Gly  
85 90 95

Asp Tyr Arg Cys Leu Tyr Gly Asp Ser Gln Ala Ala Thr Thr Ile Tyr  
100 105 110

Val Tyr Val Gln Asp Tyr Arg Ser Pro Phe Val Thr Ser Val Gly Asp  
115 120 125

Gln Leu Gly Ile Val Tyr Ile Thr Lys Asn Lys Thr Val Val Val Pro  
130 135 140

Cys Leu Gly Thr Val Ser Asn Leu Asn Val Ser Leu His Ala Lys Tyr  
145 150 155 160

Pro Glu Lys Val Phe Val Pro Asp Gly Lys Ser Ile Ser Trp Asp Asn  
165 170 175

Lys Lys Gly Phe Thr Ile Pro Ser His Leu Ile Asn Tyr Ala Gly Met  
 180 185 190

Val Phe Cys Glu Ala Lys Ile Asp Asn Glu Ser Tyr Gln Ser Val Ile  
 195 200 205

Tyr Ile Val Ala Val Val Gly Tyr Arg Ile Tyr Asp Leu Thr Met Asn  
 210 215 220

Pro His Tyr Gln Val Glu Leu Ala Val Gly Glu Lys Leu Val Leu Asn  
 225 230 235 240

Cys Thr Val Arg Thr Glu Leu Asn Val Gly Ile Asp Phe Arg Trp Asp  
 245 250 255

Tyr Pro Ser Ile Lys Glu Arg Arg Ala Thr Ile Arg Asp Leu Lys Thr  
 260 265 270

Thr Ala Gly Glu Ile Lys Thr Phe Val Ser Thr Leu Thr Ile Glu Ser  
 275 280 285

Val Asn Leu Ser Asp Lys Gly Arg Tyr Thr Cys Ala Ala Ser Ser Gly  
 290 295 300

Arg Met Asn Met Lys Asn Ser Ser Tyr Phe Ile Ile His Glu Ser Pro  
 305 310 315 320

Phe Ile His Leu Glu Lys Met Glu Asn Val Val Glu Met Lys Leu Gly  
 325 330 335

Asp Thr Val Ser Ile Pro Val Lys Phe Lys Gly Tyr Pro Pro Pro Glu  
 340 345 350

Ala Lys Trp Tyr Lys Asn Gly Lys Val Ile Asn Ala Asn His Thr Val  
 355 360 365

Lys Leu Gly Tyr Ala Leu Val Ile Thr Glu Ala Thr Glu Lys Asp Ala  
 370 375 380

Gly Asn Tyr Thr Val Val Leu Thr Asn Pro Thr Asn Lys Met Gln Lys  
 385 390 395 400

Arg His Thr Phe Thr Leu Leu Val Asn Val Pro Pro Gln Ile Gly Glu

405	410	415
Asn Ala Leu Met Ala Pro Val Asp Ser Tyr Lys Tyr Gly Ser Thr Gln 420 425 430		
Ala Leu Thr Cys Thr Ile Tyr Ala Val Pro Pro Pro Ala Ala Val Leu 435 440 445		
Trp Tyr Trp Gln Leu Glu Glu Glu Cys Thr Phe Ser Pro Gln Lys Val 450 455 460		
Arg Leu Gly Ala Asn Pro Tyr Ala Cys Arg Lys Trp Lys Val Ile Ser 465 470 475 480		
Glu Arg Lys Gly Gly Asn Gln Val Glu Ile Lys Gln Arg Val Val Thr 485 490 495		
Ile Ala Gly Lys Thr Lys Thr Val Ser Thr Leu Val Ile Gln Ala Ala 500 505 510		
Asn Val Ser Ala Leu Tyr Arg Cys Met Ala Thr Asn Arg Ala Gly Ser 515 520 525		
Ser Glu Arg Val Ile Ser Phe His Val Thr Arg Gly Leu Glu Ile Asn 530 535 540		
Leu Gln Pro Arg Ser Gln Leu Thr Glu Lys Asp Asn Thr Ser Leu Gln 545 550 555 560		
Cys Thr Ala Asp Lys Phe Thr Phe Glu Lys Leu Ser Trp Tyr Lys Leu 565 570 575		
Ser Thr His Val Ser Gln Thr Pro Phe Gly Gly Leu Pro Met Pro Val 580 585 590		
Cys Lys Asn Leu Asp Ala Leu Gln Lys Leu Asn Ala Thr Val Ser Asn 595 600 605		
Val Asn Gly Glu Asn Val Thr Leu Glu Leu Ile Leu Arg Asn Ile Ser 610 615 620		
Leu Gln Asp Gly Gly Asp Tyr Val Cys Ile Ala Gln Asp Lys Lys Ala 625 630 635 640		

Lys Thr Gln His Cys Leu Val Lys His Leu Thr Val Gln Glu Pro Leu  
645 650 655

His Pro Arg Leu Val Gly Asn Leu Glu Asn Gln Thr Thr Asn Ile Gly  
660 665 670

Glu Thr Ile Glu Val Leu Cys Thr Val Asn Gly Val Pro Pro Pro Asn  
675 680 685

Ile Thr Trp Phe Lys Asn Ser Glu Thr Leu Phe Glu Asp Ser Gly Ile  
690 695 700

Val Leu Lys Asp Gly Asn Lys Thr Leu Thr Ile Arg Arg Val Arg Lys  
705 710 715 720

Glu Asp Gly Gly Leu Tyr Thr Cys Leu Ala Cys Asn Ile Leu Gly Cys  
725 730 735

Lys Lys Ala Glu Ala Phe Phe Ser Val Gln Gly Ala Glu Glu Lys Thr  
740 745 750

Asn Leu Glu Leu Ile Ile Leu Val Gly Thr Ala Val Ile Ala Met Phe  
755 760 765

Phe Trp Leu Leu Leu Val Ile Ile Leu Arg Thr Val Lys Arg Ala Asn  
770 775 780

Gly Gly Asp Met Lys Thr Gly Tyr Leu Ser Ile Ile Met Asp Pro Asp  
785 790 795 800

Glu Val Pro Ile Asp Glu His Cys Glu Arg Leu Pro Tyr Asp Ala Ser  
805 810 815

Lys Trp Glu Phe Pro Arg Asp Arg Leu Lys Leu Gly Lys Pro Leu Gly  
820 825 830

Arg Gly Ala Phe Gly Gln Val Ile Glu Ala Asp Ala Phe Gly Ile Asp  
835 840 845

Lys Thr Ala Thr Cys Arg Thr Val Ala Val Lys Met Leu Lys Glu Gly  
850 855 860

Ala Thr His Ser Glu His Arg Ala Leu Met Ser Glu Leu Lys Ile Leu  
865 870 875 880

Ile His Ile Gly His His Leu Asn Val Val Asn Leu Leu Gly Ala Cys  
885 890 895

Thr Lys Pro Gly Gly Pro Leu Met Val Ile Val Glu Tyr Cys Lys Phe  
900 905 910

Gly Asn Leu Ser Ala Tyr Leu Arg Ser Lys Arg Ser Glu Phe Ile Pro  
915 920 925

Tyr Lys Met Lys Ser Ala Arg Phe Arg Gln Gly Lys Glu Asn Tyr Thr  
930 935 940

Gly Asp Ile Ser Thr Asp Leu Lys Gln Arg Leu Asp Ser Ile Thr Ser  
945 950 955 960

Ser Gln Ser Ser Thr Ser Ser Gly Phe Val Glu Glu Arg Ser Leu Ser  
965 970 975

Asp Val Glu Glu Glu Asp Ala Gly Ser Glu Asp Leu Cys Lys Asn Pro  
980 985 990

Leu Thr Met Glu Asp Leu Ile Cys Tyr Ser Phe Gln Val Ala Arg Gly  
995 1000 1005

Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg Asp Leu Ala  
1010 1015 1020

Ala Arg Asn Ile Leu Leu Ser Asp Asn Asn Val Val Lys Ile Cys  
1025 1030 1035

Asp Phe Gly Leu Ala Arg Asp Ile Tyr Lys Asp Pro Asp Tyr Val  
1040 1045 1050

Arg Lys Gly Asp Ala Arg Leu Pro Leu Lys Trp Met Ala Pro Glu  
1055 1060 1065

Thr Ile Phe Asp Arg Val Tyr Thr Ile Gln Ser Asp Val Trp Ser  
1070 1075 1080



Phe Gly	Val Leu Leu Trp	Glu	Ile Phe Ser Leu Gly	Ala Ser Pro
1085		1090		1095
Tyr Pro	Gly Val Lys Ile Asp	Glu Glu Phe Cys Arg	Arg Leu Lys	
1100		1105		1110
Glu Gly	Thr Arg Met Arg Ala	Pro Asp Tyr Thr Thr	Pro Glu Met	
1115		1120		1125
Tyr Gln	Thr Met Leu Asp Cys	Trp His Gly Asp Pro	Lys Gln Arg	
1130		1135		1140
Pro Thr	Phe Ser Glu Leu Val	Glu His Leu Gly Asn	Leu Leu Gln	
1145		1150		1155
Ala Asn	Val Arg Gln Asp Gly	Lys Asp Tyr Val Val	Leu Pro Leu	
1160		1165		1170
Ser Val	Ser Leu Asn Met Glu	Glu Asp Ser Gly Leu	Ser Leu Pro	
1175		1180		1185
Thr Ser	Pro Ala Ser Cys Lys	Glu Glu Glu Glu Val	Cys Asp Pro	
1190		1195		1200
Lys Phe	His Tyr Asp Asn Thr	Ala Gly Ile Ser Gln	Tyr Arg Gln	
1205		1210		1215
Gly Ser	Lys Arg Lys Ser Arg	Pro Val Ser Val Lys	Thr Phe Glu	
1220		1225		1230
Asp Ile	Pro Leu Val Thr Thr	Val Lys Val Val Gln	Glu Glu Asn	
1235		1240		1245
Gln Thr	Asp Ser Gly Met Val	Leu Ala Ser Glu Glu	Leu Lys Thr	
1250		1255		1260
Leu Glu	Glu Gln Asp Lys Gln	Val Lys Ile Pro Phe	Ser Thr Leu	
1265		1270		1275
Ala Pro	Ser Lys Ser Asn Glu	Ser Val Met Ser Glu	Ala Ser Asn	
1280		1285		1290
Gln Thr	Ser Gly Tyr Gln Ser	Gly Tyr His Ser Asp	Asp Met Asp	

1295

1300

1305

Asn Met Val Cys Ser Ser Glu Asp Thr Glu Leu Leu Cys Ala Gln  
1310 1315 1320

Glu Ala Ser Pro Thr Leu Pro Arg Cys Ala Trp Pro Gly Ile Tyr  
1325 1330 1335

Ser Pro Ala Pro Val Ala Ser Leu Pro Leu  
1340 1345